Government
Publications

SESSIONAL PAPERS.

VOLUME VI.—PART III.

THIRD SESSION OF THE SECOND PARLIAMENT

OF THE

PROVINCE OF ONTARIO.

Session 1874.

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No. 41..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, Copies of all correspondence, if any, between the Government of the Dominion and the Government of this Province, since the first July, 1867, respecting the Monument of the late Major-General Sir Isaac Brock, at Queenston, and the lands connected therewith ; and a statement of the amount expended by the Province of Ontario upon such monument and grounds.

No. 42..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, petitions and correspondence in connection with charges made against Augustine McDonald, P.L.S., Superintendent of Drains in the Townships of Raleigh and Tilbury East ; also, copies of instructions given to the Commissioner appointed to investigate said charges, of the evidence taken by said Commissioner, and his report thereon. (*Not printed.*)

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No. 52..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, copies of the various reports of Land Valuators in the different counties of the Province, together with the names of valuators appointed in the different counties, with the dates of their several appointments and discharges ; and a statement of the

various sums paid to such valuators, and copies of the accounts furnished by them to the Department for services rendered.

No. 53..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, A Statement showing the income and expenditure of the Provincial Government for the year 1873, and from what sources such is derived.

No. 54..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before this House, A Return showing the number of Civil and Criminal cases entered for trial at the several Assizes throughout Ontario, since 1870; and showing the number of cases tried and the number of remanets and criminal causes left over at each Assize; distinguishing between County Court cases and Superior Court cases.

No. 55..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency that he will cause to be laid before the House, a Return shewing the names of all Railway Companies which have not complied, either in whole or part, with the conditions of Orders in Council ratified by the House.

No. 56..... Return to an Address praying His Excellency to cause to be laid before the House, a Return shewing the names of all persons appointed to any Office, either temporary or permanent, since January 1st, 1873; the date of their several appointments, and the salaries or emoluments attached thereto.

No. 57..... Annual Report of the Council of the University College of Toronto. (*Not printed.*)

No. 58..... Orders in Council relative to the Railway Aid Fund.

No. 59..... Orders in Council relative to the Railway Aid Fund.

No. 60..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, copies of all rules, regulations and instructions, issued by the Council of Public Instruction for the guidance of Teachers, Trustees, and Inspectors, and all other rules, regulations and instructions passed by the Council of Public Instruction for the purpose of carrying out the provisions of the School Law, and the dates when they were passed. (*Not printed*)

No. 61..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House,—

1st. Copies of all correspondence between the Inspector of Schools for the County of Peel, to and from Dr. Ryerson, Chief Superintendent of Education, or to any other person in the Education Office, at Toronto, relating to taking a number of lots from School Section No. 6, of Albion, and attaching the same to Union School Section, No. 13 Albion, and 20 King.

2nd. All correspondence in Dr. Ryerson's possession, from the trustees of School Section No. 6, and 13 Albion and others (if any) relating to the same.

3rd. The Chief Superintendent's decision of the 7th of October and of the 18th of November respectively.

4th. All correspondence between the Inspector of Peel, Mr. McKinnon, to the Inspector of North York, Mr. Frotheringham, and Mr. Frotheringham to Mr. McKinnon, now in their possession, which has not been sent to the Education Office, including a protest signed

by George Jones and placed in Mr. Frotheringham's hands, as chairman of a meeting held last December at Bolton Village, also Mr. McKinnon's to any other person.

5th All affidavits relating to the above, now in Dr. Ryerson's possession, particularly sworn to between the 7th of October and the 18th of November; also, the affidavits since made and now in his possession.

6th. The said copies to commence at the 1st of September, 1872, and to end with this date. (*Not printed.*)

No. 62..... Return of correspondence and papers relating to the North Grey Railway, subsequent to that printed in Sessional Papers of 1871-72.

No. 63..... Return of correspondence and papers, relative to the application of the Omemee, Bobcaygeon and North Peterborough Railway Company for aid.

No. 64..... Return of correspondence and papers relating to the application of the Canada Central Railway Company for aid, subsequent to that printed in Sessional Papers of 1871-72.

No. 65..... Return of correspondence and papers relating to the application of the Ontario Central Railway Company for aid.

No. 66..... Return of correspondence and papers relating to the Ottawa, Vaudreuil and Montreal Railway Company, subsequent to that printed in Sessional Papers of 1871-72.

No. 67..... Return of correspondence and papers relating to the Merrickville and Westport Railway Company, subsequent to that printed in Sessional Papers of 1871-72.

No. 68..... Statement of the affairs of the Ontario Mutual Life Assurance Company for the year 1873. (*Not printed.*)

No. 69..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before this House, Copies of Papers, Petitions, Engineer's Report, and of all Correspondence referring to the improvement of the Grand River.

No. 70..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before this House, copies of all correspondence in reference to proposed improvements in the Nation River; also, copies of reports of surveys, together with the cost thereof.

No. 71..... Return to an Address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the House, a return of all the correspondence between the Government and Mr. *Stone*, his attorney and agents, and all correspondence between the Government and its solicitors and agents, at *Guelph*, relating to the Agricultural Farm at Guelph, except as to the title; also all other correspondence between the Government and any other person, in reference to the said farm.

REPORT

UPON THE

PALÆONTOLOGY

OF THE

PROVINCE OF ONTARIO.

BY

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Presented to the Legislative Assembly by command of His Excellency the Lieutenant-Governor.

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1874.

To the Honourable the Secretary of the Province of Ontario.

Sir,—I have the honour to submit to you, for the information of His Excellency the Lieutenant-Governor in Council and the Legislature, the following Report upon the Palæontology of the Province of Ontario, embracing descriptions and figures of the organic remains of the Devonian formation of Western Canada.

In addition to the collections which, by the liberality of the Legislature, I was enabled to make from the Devonian rocks, I also examined and formed collections from various portions of the Silurian series. The description of these, however, I must in the meanwhile hold over, partly because of their being still incomplete, and partly on account of my own want of leisure.

In addition to the collection which I have placed in the Museum of the University, I have also placed examples of the more typical Devonian fossils in the Museum of the College of Technology.

I have the honour to be, Sir,

Your most obedient servant,

H. Alleyne Nicholson.

University College, Toronto,
October, 1873.

PREFACE.

The following Report contains descriptions, for the most part accompanied by figures, of the fossils which I collected during the year 1873, in the Devonian rocks of Western Canada, by the help of a grant set apart for this purpose by the Government of Ontario. In some few cases, for the sake of completeness, I have also included descriptions of remains which I have collected upon other occasions from the same deposits, but which did not come under my notice during the investigation of which this is a special record.

The collections herein described were mainly made from the inferior portion of the Devonian series (Oriskany Sandstone and Corniferous Limestone); but the Hamilton group was likewise, though less carefully, examined.

The time and means at my disposal being both limited, I thought it advisable rather to make a careful and prolonged examination of the fauna of a limited district, than to make less exhaustive collections from a wider area and from scattered localities. In accordance with this view, I repeatedly and very carefully examined the various fossiliferous localities in the Devonian rocks of the Townships of Wainfleet, Humberstone, and Bertie, in the County of Welland, on the north shore of Lake Erie. I also visited, more hurriedly, the same deposits further to the west, as they occur in the Townships of Oneida and Walpole, in the County of Haldimand.

In investigating the remains of the Corniferous and Hamilton formations, it is hardly necessary for me to remark that I have been very greatly indebted to the various memoirs and works upon this subject by Mr. Billings and Prof. James Hall. The wood engravings, with two exceptions, and all the figures in the lithographic plates which accompany this work, are original.

University College, Toronto.
October, 1873.

INTRODUCTION.

According to the views of the American geologists, the Devonian formation in the State of New York admits of subdivision into the following minor groups, in ascending order:—

I. Oriskany Sandstone.—This group consists essentially of coarse siliceous sandstones and sands, sometimes more or less calcareous, sometimes argillaceous, and often containing nodules, layers and seams of chert. In its greatest development in the State of New York, the Oriskany Sandstone has a thickness of no more than thirty feet; and it is highly fossiliferous. According to Sir William Logan (*Geology of Canada*, p. 360,) the Oriskany Sandstone enters Canada at Waterloo, on the Niagara River, and can be traced westward as far as the Township of Windham. It does not differ much from the Oriskany Sandstone of the State of New York in its lithological characters, except that it is usually more highly calcareous, and in places is a genuine though impure limestone. Its usual thickness is only about six feet, though sometimes attaining to as much as twenty-five feet; and it is often altogether wanting, when the Corniferous Limestone reposes directly upon the underlying Lower Helderberg formation.

The exact age of the Oriskany Sandstone cannot be said to be altogether free from doubt. No mechanical break separates the Oriskany and Lower Helderberg deposits, and the difference which is observable in the faunæ of the two groups is not greater than might be well accounted for by the lithological change from the highly calcareous accumulations of the latter to the arenaceous sediments of the former period. On the other hand, the Oriskany Sandstone in the State of New York is succeeded above by an almost non-fossiliferous deposit, the so-called "Cauda-Galli Grit," which graduates insensibly into, and forms the geological base of, the fossiliferous "Schoharie Grit." Upon the whole, so far as the State of New York is concerned, there can be little hesitation in accepting the views of Professor James Hall, who would regard the Oriskany Sandstone rather as the summit bed of the Silurian series than as the basement bed of the Devonian. Upon this subject, the above-named distinguished geologist thus expresses himself:—"Whatever may be the ultimate decision relative to the line of separation between the Silurian and Devonian systems, the base of the Schoharie Grit offers a much more decided limitation below, than does the Oriskany Sandstone. The new fauna bears less relation to the preceding, and many of the new types are of a strikingly distinct character. In the Oriskany Sandstone, we have a considerable number of species which first appear in the Lower Helderberg Group; and the connection between these formations is much more intimate than between the Oriskany Sandstone and the Schoharie Grit."—(*Palæontology of New York, Vol. IV. p.* 3.)

With regard to the so-called "Oriskany Sandstone" of Canada, the case is somewhat different. The abundant fauna which it contains is but slightly related to that of the subja-

cent Silurians; but has, on the contrary, the very closest affinity with that of the Corniferous limestone above. Indeed, this is really understating the case; since the fauna of the Oriskany Sandstone of Canada is, with very few exceptions, identical with that of the Corniferous limestone. All the typical and characteristic forms of life in the former pass up into the latter, and it is thus impossible to draw any palæontological line of separation between them. Nor, again, can it be said that there is any very close relationship between the fauna of the Oriskany Sandstone of New York and that of the formation so-called in Canada. It is true, Mr. Billings enumerates (*Geology of Canada, p.* 360) amongst the organic remains of the latter, such characteristic fossils of the former as *Rensselaeria ovalis, R. ovoides, Spirifera arenosa, Spirifera arrecta,* and *Orthis musculosa.* As a more than sufficient set-off, however, against the resemblance thus established, is the fact that the Oriskany Sandstone of Canada is crowded with the remains of corals, such as *F. Gothlandica, F. hemispherica, F. turbinata, F. polymorpha,* &c., which are characteristic of the Corniferous limestone, whilst the Oriskany Sandstone of the State of New York appears to exhibit a total and singular absence of corals. The former deposit also contains numerous Trilobites and Brachiopods (such as *Proetus crassimarginatus, Dalmania selenurus, Strophomena inequistriata, S. perplana, S. unipla, S. demissa, Chonetes hemispherica, Chonetes mucronata, Athyris spiriferoides, Centronella glans-fagea, Pentamerus oratus, &c.,* which are not known to occur in the Oriskany Sandstone of the State of New York, but which are characteristic forms in the Corniferous limestone.

From a consideration of the above-mentioned facts, it seems evident that, whatever may be the true position of the Oriskany Sandstone of the State of New York, the formation which is so named in Canada clearly appertains to the Devonian system, of which it forms the natural base. The question, indeed, arises whether the deposit which has been identified in Canada with the Oriskany Sandstone may not rather be in reality the representative of the Schoharie Grit? On this question my own researches have been too slight to justify me in hazarding any positive opinion. In the descriptions which follow, however, I shall make no distinction between the Oriskany Sandstone of Canada and the Corniferous limestone, but shall regard the two deposits as palæontologically indivisible. No inconvenience can arise from the adoption of this course here, as I have myself detected no fossils in the so-called Oriskany Sandstone which I have not also recognised in the overlying Corniferous limestone, and I have, therefore, to describe no forms of life as peculiar to the former deposit. I would only add, to prevent misconception, that I fully recognise the distinctness of the Oriskany Sandstone of New York as an independent formation, and that, so far as my own studies have led me, I decidedly lean to the view advocated by Hall, namely, that the Oriskany Sandstone should be properly regarded as belonging to the Silurian system and not to the Devonian.

II. Cauda-Galli Grit.—The Oriskany Sandstone, in the State of New York, is overlaid by a series of beds of arenaceous shale, argillaceous sandstone, or slaty grit, with a maximum thickness of sixty to seventy feet, and almost devoid of organic remains. These are known as the "Cauda-Galli Grit," from the presence in them of a peculiar spiral fossil supposed to be the remains of a sea-weed, and they have yielded as yet no other fossils except the problematical bodies just alluded to, and a single specimen of a species of *Platyceras.* As before remarked, Prof. Hall is disposed to regard the Cauda-Galli Grit as the true base of the Devonian series of North America. No representative of the Cauda-Galli Grit has as yet been made out in the Devonian formation of Western Canada.

III. Schoharie Grit.—The Cauda-Galli Grit graduates insensibly upwards into a fine grained calcareous sandstone, lithologically not unlike the Oriskany Sandstone, and known as the "Schoharie Grit." This sandstone is only about four feet in thickness, and is richly fossiliferous. The organic remains are decidedly Devonian in their character, and some of the more typical species pass on into the overlying Corniferous limestone without change. As examples of such may be mentioned *Strophomena demissa, S. Chemungensis,* and *S. perplana.*

No representative of the Schoharie Grit has been detected in Canada unless, as previously suggested, the so-called Oriskany Sandstone of Western Ontario is truly the equivalent, in part if not altogether, of this formation.

IV. Upper Helderberg or Corniferous Limestone.—The essentially arenaceous deposits of the Cauda-Galli Grit and Schoharie Grit are surmounted by the group of calcareous sediments, which may be called "Upper Helderberg," from their development in the mountains of this name, or "Corniferous," from their usually having disseminated through them considerable quantities of siliceous matter in the shape of hornstone or chert (Latin *cornu*, horn). In the State of New York these calcareous sediments are divided into two closely related groups, of which the lower has a thickness of about twenty feet, and is termed the "Onondaga Limestone;" whilst the upper is about fifty feet thick, and constitutes the "Corniferous Limestone" proper.

Even in the State of New York the distinction between the Onondaga and Corniferous Limestones is one of little moment; and in Canada no such separation can be made. In Western Ontario the limestones which represent the Onondaga and Corniferous limestones of New York, constitute a single formation indivisible upon either palæontological or lithological grounds, and to this the name of "Corniferous Limestone" has been generally applied by the Canadian geologists. The formation appears in Canada to have a thickness of about one hundred and sixty feet, and it is estimated by Sir William Logan to cover an area of probably not less than six or seven thousand square miles. It is, however, for the most part deeply covered by drift, and is, therefore, but rarely exposed. Throughout almost its whole extent, it is richly fossiliferous, its organic remains consisting mainly and characteristically of corals, there being, however, also numerous Brachiopods, Gasteropods, Polyzoa, Sponges, Trilobites, and Crinoids.

V. Marcellus Shale.—This group consists of a series of black fissile shales, sometimes with subordinate layers of impure limestone, the whole having a thickness of from fifty to one hundred feet. No representative of this group, as distinct from the overlying shales of the Hamilton group, has as yet been satisfactorily determined in Canada.

VI.—Hamilton Group.—This group consists of a series of argillaceous, shaly, or flaggy beds, with thin courses of limestone, which varies in thickness, in the State of New York, from two hundred to as much as twelve hundred feet. In Canada, the Hamilton Group is well represented by argillaceous and calcareous shales with intercalated beds of limestone, the whole having an estimated thickness of about three hundred feet. Though occupying a considerable area in Western Ontario, the Hamilton beds are seldom well exposed, and they are best exhibited in the Townships of Bosanquet and Plympton. They are charged with organic remains, consisting, for the most part, of corals, Brachiopods, and Polyzoa.

VII. Tully Limestone.—In the eastern portion of the State of New York the strata of the Hamilton Group are surmounted by a dark-blue limestone, about twenty feet in thick-

ness, which is known as the "Tully Limestone." This limestone thins out, in proceeding westward, before Lake Erie is reached, and it is not represented in Canada.

VIII. Genesee Slates.—Overlying the Tully Limestone, or in its absence the Hamilton Group, is a series of black, bituminous, sparsely fossiliferous shales, to which the New York geologists have applied the name of "Genesee Shales" or "Genesee Slates." Professor Hall unites these with the Portage Group, and their occurrence has not been satisfactorily recognized in Canada, unless they should be represented by the fissile shales of Kettle Point, Lake Huron, as has been generally supposed. In this case, the Genesee Shales of Canada are very important and interesting, from the presence in them of well-preserved remains of plants.

IX. Portage Group.—This group is composed of a considerable thickness of shales, flags, and shaly sandstones. Few fossils are present, and the group is not known to be represented in Western Ontario.

X. Chemung Group.—If the Catskill sandstones and shales be regarded as belonging to the Carboniferous, the summit of the Devonian System in Eastern America is constituted by the so-called "Chemung Group." This consists of a great series of sandstones and shales, containing a considerable number of fossils; but no equivalent of the group has been recognized in Canada West.

The following table exhibits, in a summary form, and in ascending order, the various members of the Devonian Formation of the State of New York, with their equivalents in Ontario.

Devonian Strata of the State of New York.	*Equivalents in Ontario.*
I. Oriskany Sandstone	Sandstones of North Cayuga and Oneida?
II. Cauda-Galli Grit	No equivalent.
III. Schoharie Grit	Sandstones of North Cayuga and Oneida? [Or no equivalent?
IV. Onondaga Limestone / Corniferous Limestone (= Upper Helderberg Limestones)	Corniferous Limestone.
V. Marcellus Shale VI. Hamilton Shales VII. Tully Limestone	Hamilton Group
VIII. Genesee Shales	Fissile Shales of Kettle Point, Lake Huron, [with remains of plants.
IX. Portage Group	No equivalents.
X. Chemung Group	No equivalents.

CHAPTER I.

Protozoa of the Corniferous Limestone and Hamilton Formation.

The remains of *Protozoa* in the Corniferous Limestone, though not of a very varied nature are far from uncommon, and constitute quite a marked feature in the Lower Devonian fauna. With the exception of a species of *Astræospongia* and one or two undetermined forms, they belong entirely to the enigmatical genus *Stromatopora* or to a genus so closely allied to this as to render any separation at present unadvisable. They may, with the greatest probability, be regarded as belonging to the *Spongida;* though the more typical forms of *Stromatopora* have not as yet been shown to possess some of the more important characters of Sponge-structure. In all, I have detected one species of *Astræospongia* and five species of *Stromatopora* in the Corniferous Limestone of Western Ontario, all of the latter, with the exception of *S. concentrica* (Gold.), being apparently new.

1. Astræospongia, Sp.

A single specimen has come under my notice of spicules which clearly belong to a species of Rœmer's genus *Astræospongia*. The spicules are hex-radiate, two of the radii being longer than the others, and each star having a diameter of about one line measuring across from the extremities of opposite rays. Along with the starlike rays are others of a simply aciculate form. Nothing but detached spicules have been obtained, and I have no knowledge of the general form of the Sponge

Spicules similar to those of the present species occur not uncommonly in the Hamilton Shales of Canandaigua, in the State of New York, and both have a general resemblance to those figured by Meek and Worthen, (*Geology of Illinois*, Vol. III, Pl. 10, Fig. 6,) under the name of *A. Hamiltonensis*. They are, however, more slender and delicate in their proportions. It is quite probable that our form is distinct; but, having merely such fragmentary remains of it, I have not thought it advisable to describe it under a separate specific title. A similar, if not identical, form has also been described by Rœmer from the Upper Silurian of Tennessee. (*Sil. Fauna, West Tenn.*, p. 14.)

Locality and Formation —From the base of the Corniferous Limestone (Oriskany Sandstone ?) near Port Colborne.

Genus Stromatopora (De Blainville).

The genus *Stromatopora* includes a number of fossils of doubtful affinities, which have the common character of forming amorphous masses or extended sheets and crusts composed of delicate calcareous laminæ, arranged in successive strata one above the other, and separated from one another by minute vertical props or pillars, which some believe to be tubular. Very often, the successive laminæ are disposed round an imaginary centre or centres in a concentric manner, giving rise to spherical, hemispherical, or irregular forms. In other cases, the mass is extended so as to form an expanded cup or irregular sheet, composed, like the preceding, of successively superimposed laminæ.

The main element, therefore, in the structure of *Stromatopora*, and the only one as to which all observers appear agreed, is a system of parallel calcareous laminæ generally of great tenuity, not in actual contact, but separated from one another by narrow interspaces. The successive laminæ are kept apart by a system of calcareous rods or pillars, which are directed at right angles to the laminæ, and divide the intervals between the latter into minute quadrangular compartments.

So far, the structure of *Stromatopora* would be compatible with a reference of the genus either to the *Foraminifera* or to the *Spongida;* but there are unfortunately many differences

of opinion as to the further details of the structure of *Stromatopora* and these have led to equally wide differences of opinion as to the affinities and systematic place of the genus.

According to McCoy (*Pal. Foss.*, p. 12,) the vesicular tissue of *Stromatopora* is composed of "minute curved calcareous plates," which he compares with the cœnenchyma of *Palæopora* and *Fistulipora*. He also states that the upper surface is occasionally marked "with extremely obscure, distant, quincuncially arranged, small pits," which he appears to think may represent the corallites in the above mentioned and other allied genera.

Prof. Hall agrees with McCoy in referring *Stromatopora* to the *Celenterata*, and in placing it in the neighbourhood of *Tubipora* (*Pal. N. Y.*, Vol. II. p. 135.) He considers that the fossils of this genus are composed of "minute cylindrical tubes with considerable space between; and that the laminated structure arises from thin layers of calcareous matter deposited and filling the spaces between, and enclosing the tubes."

If the *Stromatopora polymorpha* of Goldfuss (*Petref.* Pl. lxiv, figs. 8*a*, 8*f*) be a genuine *Stromatopora*, then this eminent palæontologist long since recognised the fact that *Stromatopora* is a genus of Sponges. There is, however, some doubt on this point; since neither his description, though unusually precise, nor his figures demonstrate the existence in this species of the minute structure peculiar to *Stromatopora*. Nor is this point cleared up satisfactorily by the description given by McCoy of this same species (*Pal. Foss.* p. 65); whilst D'Orbigny makes *Stromatopora polymorpha*, Goldfuss, the type of his genus *Sparsispongia*. There is, however, much resemblance between *S. polymorpha* and some of the species of *Stromatopora* from the Devonian Rocks of Ontario, especially *S. granulata*, Nich.

My own investigations of a very extensive series of examples from the Lower and Upper Silurian formations, and from the Devonian Rocks, have led me to the opinion that the genus *Stromatopora* is clearly referrible to the *Spongida*, and that it should be placed amongst the *Calcispongiæ*, a group represented by many and varied forms both in past time and at the present day. The reasons for this belief may be summed up as follows:—

a. The fundamental structure of *Stromatopora* is by no means inconsistent with the belief that it belongs to the *Calcispongiæ*. It does not consist of reticulated calcareous spicula, as in the more typical members of the group; but neither does it consist of a vesicular tissue composed of "minute curved calcareous plates" (McCoy), which could be in any way compared with the vesicular cœnenchyma of many tabulate corals. On the contrary, it consists of successive calcareous layers, which may be regarded as composed of an amalgamated system of horizontal spicules, separated by intervals, and kept apart by a vertical system of delicate calcareous props or rods, giving rise to a system of more or less quadrangular cells. The horizontal laminæ are upon the whole continuous, but they sometimes sub-divide and inosculate: and the vertical pillars are decidedly irregular, being sometimes inclined at various angles, and not being placed at uniform distances in all parts of even the same specimen. Some of the vertical rods pass continuously through several laminæ and the interspaces between them; but the greater number are confined entirely to the interval between two successive laminæ, and are not continuous, nor correspond with those in the interval immediately above or below. There is no ground, so far as I am aware, for the supposition that these vertical pillars are perforated, or are of the nature of tubes inhabited by the separate zoöids of a colony; indeed in the forms which occur in the Corniferous limestone there is the strongest positive proof that this is not the case, and that they are of the nature of solid rods or dissepiments. There is nothing in the fundamental tissue or groundwork of *Stromatopora*, as above described, which would necessarily preclude us from referring the genus to the *Spongida*; nor can any stress be laid upon McCoy's argument that these organisms cannot be sponges on account of their possessing a rigid and inflexible skeleton, since similar reasoning would compel us to remove from the *Spongida* a vast number of forms the zoological position of which is beyond doubt. At the same time, if *Stromatopora* consisted wholly of the laminated and reticulated tissue just described, and possessed none of those openings which are so characteristic of the sponges, then, indeed, the genus might be more properly referred to the *Foraminifera*, in many respects the close allies of the sponges, but destitute of the canal-system which is present in the latter.

b. Such openings, however, can be shown to exist in certain forms of *Stromatopora*, and there is strong reason for believing that they will ultimately be found to be present in all. Thus in *Stromatopora striatella* (D'Orb.), and *S. concentrica* (Gold.), both typical examples of the genus, Professor McCoy long ago described the existence of vermicular tubes opening

on the surface by small apertures, and passing more or less vertically through the component layers of the mass (*Pal. Foss*, p. 14 and p. 65). There is some ambiguity in the language used by this eminent palæontologist in describing these tubes and their openings in *S. concentrica*; and the evidence is not at present sufficient to warrant any positive statement of opinion as to whether they may correspond with the "pores" or the "oscula" of an ordinary sponge It is probable, however, that they should be regarded as representing the "pores," and that the "oscula" will yet be discovered by a more extended and careful examination. Again, in *S. ostiolata*, (Nich.), a species from the Guelph formation of Canada, the upper surface of the mass carries small but regularly arranged openings, which can hardly be regarded as being other than "oscula" (*Annals of Natural History*, Aug., 1873, p. 90, Pl. 4, fig. 1). In *S. tuberculata* (Nich.), again, I have now discovered a system of comparatively large, though remote, openings which communicate with canals traversing the organism, and which appear to fulfil beyond all question the function of exhalant apertures. Undoubted oscula also occur in *S. granulata*. Lastly, in the *S. perforata* (Nich.), now described for the first time, the entire mass is perforated by numerous and close-set canals, of considerable size, opening at the surface in rounded apertures and generally at the summit of chimney-like or conical eminences. These openings must represent "oscula." It is true that in few instances with which I am acquainted has any species of *Stromatopora* been shown with certainty to possess two sets of apertures, small and large, one set being inhalant and the other exhalant. It must be remembered, however, that the difficulties of observation in this case are very great; and the "pores" might have escaped notice either from their minute size, or from the condition of mineralisation in which these fossils occur, all the cavities of the mass being filled up with foreign matter, and the reticulated tissue itself being often silicified. Or, it is possible that in some of these ancient forms the two sets of apertures were of equal size, and are thus incapable of being distinguished in a fossil condition. Still there are some cases in which fossils in other respects referable to *Stromatopora* have been shown to possess both inhalant and exhalant apertures. The cases in question are *S. granulata* Nich., in a single specimen only; *S. tubulata* (Nich.), a still undescribed species from the Niagara limestone of Indiana, and *S. Hindei* (Nich.), from the Niagara limestone of Canada. Of this last named species, I append an engraving in which these two sets of apertures are well exhibited.

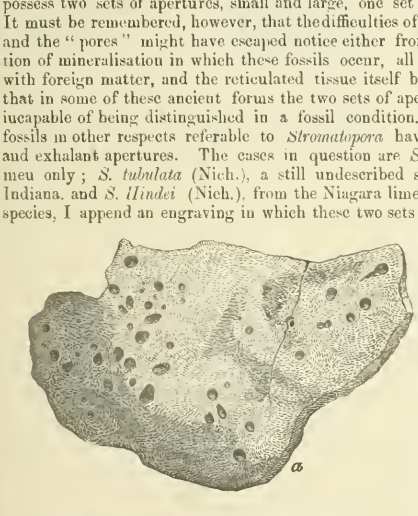


Fig. 1.—*Stromatopora Hindei* (Nich.), *a*, upper surface of a fragment, of the natural size; *b*, vertical section, enlarged; *c*, upper surface of a fragment, enlarged—Niagara limestone.

c. The shape of the various species of *Stromatopora* is such as would accord perfectly well with the belief that they are Sponges. Some are in the form of rounded or irregularly hemispherical or conical masses. Others are somwhat cup-shaped; and others, again, have the form of irregular and extended crusts, apparently attached at one point to some solid body, from which they spread laterally in every direction.

Upon the whole I think the evidence is very decidedly in favour of the view that the genus *Stromatopora* is referable to the *Calcispongiæ*. In accordance with this view, I shall retain in this genus the forms here described as *S. tuberculata* and *S. perforata*; since these, at any rate, appear to be unquestionably sponges, and they would, upon any other view of the affinities of *Stromatopora*, require a new genus to be formed for their reception.

The genus *Stromatopora* appears to have commenced its existence in the Lower Silurian and to have died out in the Carboniferous period. In the Devonian period the genus would seem to have attained its maximum; and I have to record no less than five

species from the Corniferous Limestone of Ontario. One of these, viz., *S. concentrica* (Gold.), is a well known European species; but, owing to its mode of occurrence and state of preservation, I regard its identification as, to say the least of it, doubtful. The other four species are new.

2. Stromatopora tuberculata (Nicholson).

(Plate I., figs. 2 and 3.)

Stromatopora tuberculata.—Nicholson. Annals and Magazine of Natural History, August, 1873. Plate IV., figs. 2 and 3.

Fossil forming crusts or irregular expansions of varying thickness, and often covering large surfaces, composed of numerous concentric calcareous laminæ, separated by delicate calcareous rods, pillars, or dissepiments, which are disposed at right angles to the laminæ and mark off minute cellular compartments or interspaces. The laminæ and intervening spaces are about five in the space of one line, sometimes four; and the vertical pillars or dissepiments are comparatively strong and placed at proportionately remote intervals. The upper surface of the mass is more or less strongly undulated, and is covered with close-set, conical, clavate or fungiform tubercles, the elevation of which is about from one-fiftieth to one-twenty-fifth of an inch above the general surface. The tubercles would seem to be sometimes perforated, but are more commonly imperforate, and they are placed in irregular sinuous lines, three or four sometimes coalescing longitudinally. They are separated from one another by about their own width (more or less), about one-twenty-fifth of an inch. When the fossil is broken, it is seen that similar tuberculated surfaces occur at various depths in the mass, concentric with one another, and separated by laminated and reticulated tissue.

The under surface is covered with a thin calcareous basement-layer, which is thrown into very numerous, concentrically-arranged, undulating wrinkles. This surface is not unlike the epitheca of a *Favosites*, but is not so smooth, and does not appear to have been absolutely unbroken.

Both upon the upper surface and the lower are placed at irregular intervals rounded apertures from half to two-thirds of a line in diameter. They appear to be wanting in some specimens, which, however, are fragmentary; whilst they can be readily detected in others. They are the openings of canals which penetrate the mass in a more or less vertical direction, and they can hardly correspond with anything except the oscula of sponges. The distance of these apertures apart varies from two lines to half an inch.

As regards one of the most important points in the structure of *S. tuberculata*, namely the large canals and exhalant orifices, I have now obtained fine specimens which set the question at rest. In my original description (*Loc. cit.* p. 93), I stated the case as follows: "Many examples exhibit rounded openings or tubes, from half a line to a line in diameter, descending at right angles to the mass, and placed at varying intervals. These openings are not elevated above the general surface. They are not constant in their occurrence, though very generally present; and I have not been able to satisfy myself that they are not truly extraneous to the fossil. They may, perhaps, be annelidous in their nature; or they may be due to the fact that the organism has enveloped a colony of *Syringopora*, which has subsequently been dissolved away." The specimens now in my possession, however, prove conclusively that these canals and apertures are truly parts of the fossil, and they appear to be strictly comparable to the oscula of sponges. They are mostly to be detected upon the upper surface, but in one large specimen which seems to have grown from a broad base of attachment, and then to have spread out laterally in an irregularly cup-shaped form, they are plentifully developed on the lower surface. There is thus every reason for concluding that *S. tuberculata* is truly a calcareous sponge; and the chief question remaining is, whether it can with propriety be retained in the genus *Stromatopora*. My own opinion is against forming a new genus for its reception, since it has the essential structure of *Stromatopora*, and the difficulty which I experienced at first in detecting the oscula in examining even a large series of specimens, has convinced me that the occurrence of similar openings may well have been overlooked even in the type-species of this genus.

Stromatopora tuberculata is readily distinguished by its very coarse reticulation, the tuberculated nature of the upper surface, the concentrically-wrinkled under-side, and the presence of remote and irregularly placed oscula, which are not situated upon eminences. Whether the

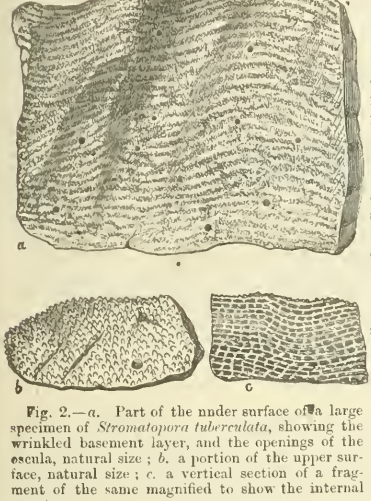


Fig. 2.—*a*. Part of the under surface of a large specimen of *Stromatopora tuberculata*, showing the wrinkled basement layer, and the openings of the oscula, natural size ; *b*. a portion of the upper surface, natural size ; *c*. a vertical section of a fragment of the same magnified to show the internal structure.

small surface tubercles are perforated or not, remains an open question, but I should be disposed to think that some of them, at any rate, were so, thus corresponding with "pores." The crusts or expansions of this species often cover large surfaces; but it is certain that in many cases a great portion of the under surface must have been free and unattached to any foreign body. The general thickness of the crusts varies from three to four lines to two inches or more ; but the latter specimens are to be regarded as being composed of a succession of crusts superimposed, the younger upon the older, as is shown by the occurrence of tuberculated surfaces at various levels throughout the mass.

Locality and formation.—Common, in a silicified condition, in the Corniferous limestone of Ridgeway and Port Colborne.

3. STROMATOPORA PERFORATA (Nicholson).

Stromatopora perforata (Nicholson.) Annals and Magazine of Natural History, Jan., 1874.

Fossil composed of crusts of varying thickness, made up of thin concentrically arranged calcareous laminæ, the interspaces between which are rendered vesicular by vertically disposed calcareous rods or dissepiments. From four to five laminæ with their intervening interspaces, in a line. Upper surface undulating, and covered with very numerous rounded apertures, which vary in width from two-thirds of a line to one line, and are placed at distances apart of a line, more or less These apertures are usually placed on the summit or at one side of conical eminences, or they are elevated above the general surface, the lip of the opening on one side being generally higher than on the other. These apertures are the orifices of more or less vertical or somewhat oblique canals which penetrate the reticulated structure of the mass, and are lined by a delicate calcareous membrane marked with faint encircling striæ. Each canal descends at first and for a certain distance (about three lines) in a straight line, and then is curved so as to become nearly parallel to the lower surface of the mass, at the same time contracting in its diameter. Between the oscula, as just described, the surface is covered with a fine miliary granulation, composed of minute pustules, placed close together, and arranged in irregular vermicular and sinuous lines.

Stromatopora perforata is, perhaps, the most remarkable species of the genus which has been as yet discovered; and it can not be doubted that it is a genuine member of the *Calcispongiæ*, though in some respects an abnormal one. In its internal structure it agrees altogether with *S. tuberculata*, *S. granulata*, and *S. mammillata;* and with the two former of these it agrees further in the possession of a series of apertures which cannot be anything but "oscula." No "pores," however, have been detected, unless some of the surface-tubercles should in reality be perforated, which is likely enough.

S. perforata is readily distinguished from *S tuberculata* by the much greater number and closer arrangement of the oscula, by the elevation of these apertures above the general surface, and by the finer granulation of the upper surface. The number and closeness of the oscula

Fig. 3.—*a.* A fragment of *Stromatopora perforata*, showing the osculiferous upper surface, natural size ; *b.* fragment of the same, magnified to show the internal structure ; *c.* vertical section, showing the form and course of the canals.

also separate this form from *S. granulata*, in which the oscula are remote, and can often not be detected at all, though in other respects the surface-characters of the two species are identical. The under surface of *S. perforata* is still unknown ; but the fossil forms thinner or thicker crusts, often covering pretty extensive surfaces ; the thicker expansions being composed of a succession of crusts superimposed one upon the other.

Locality and Formation.—Rare in the Corniferous limestone of Port Colborne.

4. STROMATOPORA GRANULATA (Nicholson).

Plate I., Figs. 3 and 3 *a*.

Stromatopora granulata (Nicholson). Annals and Magazine of Natural History, August, 1873. Plate IV., Figs. 3 and 3 *a*.

Fossil forming thin crusts, or horizontally-spreading expansions (usually about a quarter of an inch in thickness, but ranging from one line up to half an inch), often occupying extensive surfaces. Crust composed of concentric calcareous laminæ, from six to ten in the space of one line, separated by interspaces which are minutely broken up into cells by numerous delicate vertical rods. Upper surface regularly undulating, often raised into chimney-like or conical elevations, which are for the most part destitute of any appearance of being perforated, but which are sometimes pierced by distinct rounded apertures or "oscula." The entire surface is covered with a fine miliary granulation, constituted by minute conical pustules, placed close together, often confluent and arranged in sinuous lines, and apparently imperforate. One example, however, shows that this granulated layer is not the true surface, but that it was covered in the perfect organism by an exceedingly delicate calcareous membrane, perforated with minute apertures or "pores." Exfoliated and broken specimens show that similar granulated surfaces occur at small intervals all through the mass. The under surface (in some cases at any rate is supported upon a concentrically-wrinkled calcareous basis, precisely similar to the epitheca of a *Favosites* or a *Fistulipora*.

The specimens upon which I founded my original description (*Loc. cit.* p. 94) did not exhibit some of the most important of the points comprised in the foregoing specific diagnosis. In none of the examples which at first came under my notice, was I able to detect either oscula or pores. In a fragment, however, of this species, which I discovered in the Hamilton formation of Widder, I have now succeeded in detecting both these structures ; and I have obtained additional examples from the Corniferous formation, showing the under surface and also the mode of growth

S. granulata is, so far as at present known, one of the few species of *Stromatopora* in which two sets of apertures exist, one large and exhalant, the other small and inhalant. In the specimen from the Hamilton shales in which these apertures can be detected, the oscula have the form of comparatively large openings, of a circular or oval shape, placed at the summit of distinct rounded or conical elevations. The pores, on the other hand, are only observable in a portion of the specimen, and are seen to have the form of minute close-set perforations in a delicate calcareous membrane or layer. Beneath this layer, and over all parts of the fossil where it has been denuded, is seen the ordinary granulated surface from which the name of the species was originally derived. There is thus a strong probability established that all the specimens from the Corniferous limestone, which exhibit simply this granulated surface are imperfect, and that there has been removed from them an exterior and very deli-

cate layer in which the pores were perforated. The granulated layer which appears to form the surface in so many specimens, would thus appear to have been covered by a kind of "dermal" membrane, and to have permitted a free circulation of water over its surface, the granules being more or less confluent, and giving rise to a complicated system of sinuous or vermicular horizontal channels.

In a great many specimens the surface layers exfoliate round numerous points, giving the upper surface of the fossil quite a characteristic appearance, which is wanting in *S. tuberculata*. Generally speaking, *S. granulata* may be distinguished from *S. tuberculata*, to which it is nearly allied, by the more delicate character of its reticulated tissue, and by the fact that the minute crowded tubercles which cover the surface are so closely placed as to be nearly in contact. As a rule the species occurs in the form of very extensive undulating crusts, one specimen observed by me covering a slab about three feet in length, by two feet in width, with an average thickness of half an inch. I possess, however, one example, in which the organism is attached by a broad base to a large *Heliophyllum*, from which it spreads out laterally in all directions as a horizontal expansion, the under surface being covered with a wrinkled "epitheca," and having obviously been free.

Locality and formation.—Not uncommon in a silicified condition in the Corniferous limestone of Ridgeway, Port Colborne, and Savage's Quarry, Wainfleet, also rare in the Hamilton formation of Bosanquet, at Bartlett's Mills, near Arkona.

5. Stromatopora mammillata (Nicholson).

(Plate I., Fig. 4.)

Stromatopora mammillata (Nicholson), Annals and Magazine of Natural History, Aug., 1873. Plate IV., Fig. 4.

Fossil forming thin crusts, about two or three lines in thickness, often covering extensive surfaces. Crust composed of successive concentric calcareous laminæ, separated by interspaces, and broken up by vertical dissepiments. Surface undulating and exhibiting a series of large conical elevations about one-fifth of an inch in height and the same in diameter at the base, placed at distances apart varying from one fifth of an inch to half an inch. Most of these conical elevations show no signs of being perforated; but some appear to have apertures at their summits. The surfaces between these elevations, as well as the elevations themselves, are roughened with numerous small granules, tubercles and irregular, sinuous ridges.

Nothing could be more distinct than the aspect of this very remarkable species, the large conical elevations which cover its surface giving it exactly the appearance of an undulating plain covered with small volcanoes. Superficially examined, it presents a striking resemblance to many recent sponges; but it cannot be asserted positively that the conical elevations just alluded to are really of the nature of oscula. Some of them certainly look as if they were perforated; but most show no signs of any aperture. This, however, is very probably due to the manner in which the fossil has been preserved; and the analogy of *S. granulata* would lead one to conclude that the conical elevations of *S. mammillata* are truly oscula. The internal structure of all the examples which I possess of this species is much more imperfectly preserved than is the case with the other species here described; and I have simply been able to satisfy myself that it is essentially the same as is characteristic of *Stromatopora* in general. I have seen crusts of this species covering an area of several square feet: but it is by no means common in its occurrence.

Locality and Formation.—Rare, in a silicified condition, in the Corniferous limestone of Port Colborne.

6. Stromatopora concentrica (Goldfuss).

In addition to the previously described species, there occur in the Corniferous limestone of Western Ontario specimens which are hardly or not at all distinguishable from *Stromatopora concentrica* (Goldfuss). As, however, all of these specimens are fragmentary, and none of them exhibit their surface, it can not be positively asserted that they belong to this familiar Devonian species.

Locality and Formation.—Corniferous Limestone, Port Colborne.

CHAPTER II.

Corals of the Corniferous and Hamilton Formations.

Of all the organic remains of the Devonian Rocks of Canada, and especially of the Corniferous Limestone, none are more conspicuous than the Corals, whether we take into consideration the vast number of individuals or the great variety of type which they exhibit. Many parts of the Corniferous Limestone are almost wholly made up of corals; and as these are usually silicified, they weather out of the limestone in a most beautiful manner, and can be obtained in a state of exquisite preservation. The soft shales of the Hamilton group, also, are often charged with the remains of corals, which, from the decomposition of the surrounding matrix, can be obtained perfectly clear of adhering sediment. Mr. Billings in his admirable memoir upon the fossil corals of the Devonian Rocks of Canada West (*Canadian Journal, New Series*, Vol. V., p. 251), estimates the number of corals in the Corniferous and Hamilton formations as probably about eighty, and of these he describes no less than fifty-four. Some of the most striking of these forms, such as the species of *Phillipsastræa*, have not come under my notice in any portion of the Corniferous Limestone or Hamilton Group studied by me; but I shall here describe over seventy species which have come under my personal observation. Of these, thirty-one belong to the *Tabulata*, five are referable to the *Tubulosa*, and thirty five belong to the great group of the *Rugosa*. The genera represented are twenty-one in number, viz.: *Favosites, Alveolites, Michelinia, Syringopora, Fistulipora, Chætetes, Callopora, Striatopora, Trachypora, Aulopora, Zaphrentis, Microcyclus, Blothrophyllum, Clisiophyllum, Heliophyllum, Diphyphyllum, Eridophyllum, Amplexus, Cystiphyllum, Haimeophyllum* and *Petraia*. Of the species about twelve can certainly be identified with known European species, viz.: *Favosites Gothlandica, F. hemispherica, F. Forbesi, F. polymorpha, F. dubia, F. cervicornis, F. reticulata, Aulopora tuboræformis, Diphyphyllum gracile, Heliophyllum Halli, Cystiphyllum vesiculosum* and *Michelinia convexa*. Besides these well known forms, there are others which are very closely allied to European species, and some which may perhaps turn out, upon fuller investigation, to be nothing more than varieties.

Genus Blothrophyllum (Billings).

Gen. Char.—"Corallum simple, turbinate or cylindrical. Internal structure consisting of a central area occupied by flat transverse diaphragms, an intermediate area with strong radiating septa, and an outer area in which there is a set of imperfect diaphragms projecting upwards, and bearing on their upper surfaces rudimentary radiating septa. A thin complete epitheca, and a septal fossette" (Billings).

The central space of the theca in corals of this genus is occupied, as in *Amplexus*, by flat or slightly flexuous tabulæ, upon which the septa do not encroach. Outside this central area is a narrow zone in which the tabulæ are bent downwards towards the base of the corallum, and are at the same time sometimes split and bifurcated, whilst the continuity of the spaces between them is interfered with by a series of strong septa. Outside this again is an outer zone, formed by a series of tabulæ, which are directed upwards and outwards in an arching manner, and which carry on their upper surfaces a series of imperfect septa, their lower surface being simply costate or ridged. Lastly, the arched tabulæ of this external zone are covered by a thin but strong epitheca with which the outer surface of the coral is invested. The genus differs from *Zaphrentis* in not having the septa prolonged inwards to, or near to, the centre, and in having the central tabulate area surrounded by a partially vesicular zone and an exterior zone composed of arched tabulæ and imperfect septa. From *Amplexus* it is distinguished by the possession of the external area last mentioned, and by the septa being more largely developed; whilst it is distinguished from *Clisiophyllum* by the first of the above mentioned peculiarities, and also by the fact that the tabulæ of the central area are flat or slightly flexuous, and are not elevated into a conical protuberance.

The genus *Blothrophyllum* was originally defined by Mr. Billings (*Can. Jour.*, New Series, vol. iv., p. 129) and the single species *B. decorticatum* was described. In addition to this previously recorded and very characteristic species, I have now to describe another allied form, *B. approximatum*, also from the Corniferous Limestone of Western Ontario.

7. Blothrophyllum decorticatum (Billings).

(Plate IV., Fig. 3.)

Blothrophyllum decorticatum (Billings): *Canadian Journal*, New Series, Vol. IV., p. 130, Fig. 25.

"Adult specimens, two feet in length, and three inches in diameter; dimensions of the immature individuals, variable; usually slender and irregularly curved; outer area consisting of rather strong rudimentary transverse diaphragms, curving upwards and outwards, distant from two to eight lines, bearing upon their upper surfaces imperfect radiating septa, which do not extend from one diaphragm to another. These septa are half a line distant at the margin of a specimen three inches in diameter. When the epitheca is preserved, the surface of this species is marked by numerous deep annulations and sharp encircling folds, their edges being always on the upper side. The transverse diaphragms in the central area are nearly flat, but have a strong septal fossette upon one side" (Billings).

In the examples which I am disposed to refer to this species, the arched tabulæ of the outer area are not less than two lines apart, often from a quarter to half an inch, and the tabulæ of the central area are also distant. The central tabulæ are often quite flexuous, but are never elevated into a boss; most usually they are nearly flat. The septa which spring from the upper surface of the arched tabulæ of the outer area only reach the tabulæ immediately above in the inner portion of the area in question; but in the outer portion of the same area fall far short of the tabulæ above, owing to the fact that the tabulæ are strongly arched, and have their concavities directed towards the base of the coral. The concave under surfaces of the tabulæ of the external area present, however, well-marked ridges corresponding with the septa on the upper surface. The septa on the upper surfaces of the tabulæ vary from half a line to a line in distance from one another, but there are very generally intercalated between the larger septa smaller ones, one between each pair, which have simply the form of slightly elevated ridges. The epitheca is not only marked with encircling annulations and folds of growth, but also with distinct longitudinal grooves, five in the space of two lines. The epitheca, however, is rarely preserved, and specimens occur most commonly in one or other of two conditions. Either the epitheca has been removed, exposing to view the arched tabulæ of the outer area with the imperfect septa on their upper surfaces; or the entire outer area has been removed along with the epitheca, leaving the central and intermediate areas in the form of a core to the outside of which are attached the bases of the arched tabulæ of the outer area. This gives rise to an appearance which is exceedingly characteristic of the present species, and by which it can almost be infallibly recognized even in very imperfect examples.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne, Ridgeway, Hagersville, and at many other points where the formation is exposed.

8. Blothrophyllum approximatum (Nicholson).

(Plate IV., Fig. 2.)

Blothrophyllum approximatum (Nicholson), "Canadian Naturalist," Vol. VII., No. 3. 1873.

Corallum of unknown length, cylindrical. The outer area consisting of strong arched diaphragms, curving upwards and outwards, distant from one another from half a line to two lines, bearing upon their upper surface imperfect septa which extend from one tabula to another when the tabulæ are remote by the former distance only, but which do not do so otherwise. Septa alternately large and small, distant about a third of a line. Tabulæ of the central area closely approximated, from three to four in the space of two lines, flat or slightly flexuous, the septa only slightly encroaching upon them. Epitheca with numerous constrictions of growth and encircling annulations, and obscure longitudinal striæ. Dimensions unknown, but certainly attaining a diameter of three inches.

In most of its essential characters this species agrees with *Blothrophyllum decorticatum*, (Billings,) of which perhaps it is merely a variety. It is, however, distinguished by its generally much greater size and by the apparently constant peculiarity that the tabulæ of the outer area are very closely set, much more closely than in *B. decorticatum*. Thus typical

specimens of the latter exhibit only from three to five of the curved tabulæ of the outer area in the space of an inch; whereas examples of *B. approximatum* present no less than from ten to fourteen tabulæ in the same space. Whether this character is one of specific value or not, may be questioned; but I think it advisable to refer provisionally the specimens which exhibit it, to a new species.

Locality and Formation.—Corniferous Limestone of Port Colborne.

Genus Clisiophyllum (Dana).

The genus *Clisiophyllum* is in an unsatisfactory condition, different palæontologists having included under this head Cyathophylloid corals which exhibit considerable differences in structure. This will be evident, if we compare together the definitions of the genus given by three distinguished authorities. Milne Edwards and Jules Haime define the genus as follows: "Corallum simple, turbinate. *Septa* well developed, and rising towards the centre of the calice so as to form a spurious columella, but not twisted."

Prof. McCoy defines *Clisiophyllum* as follows: "Corallum simple, branched or aggregate, with vertical radiating lamellæ; a thin epitheca or outer wall; *internal structure*—(vertical section), central area composed of small vesicular plates and cells converging or arching upwards towards the centre, so as to form a conical boss in the cup; no distinct central axis; outer area of small cellular structure, inclining in the opposite direction or upwards and outwards, separation between these areas formed by an intermediate area of larger, nearly horizontal, cellular structure; (horizontal section) a large central area of small irregular cellular texture, from which the primary lamellæ radiate to the outer walls, intermediate zone with few vesicular plates between the lamellæ; outer zone having the primary and secondary lamellæ connected by very numerous vesicular plates."

According to Mr. Billings, lastly, the corals of the genus *Clisiophyllum* "have the same general external form as those of the genus *Zaphrentis*, and their internal structure is also the same, except that the transverse diaphragms are elevated in the centre so as to form a small conical protuberance in the bottom of the cup, and, further, they are enveloped in an outer area composed of vesicular tissue. The septal fossette is small, and in worn specimens its place is often indicated by the prominence of one of the septa on the outside, which, being stronger than the others, forms a longitudinal angular ridge. The cells of the tissue which fills the outer area, slope upwards and outwards."

It will thus be seen that high authorities differ widely as to the structure of the corals which compose the genus *Clisiophyllum*. The most prominent distinguishing character of the genus is admitted to be the presence of a conical boss or projection at the bottom of the calice; but there are grave discrepancies of statement as to the manner in which this projection is formed. According to Milne Edwards and Haime the boss is formed by the rising of the septa of the coral towards the centre so as to constitute a spurious lamellar columella—the tabulæ being comparatively poorly developed, and the genus being thus widely removed from *Zaphrentis*. According to McCoy, again, there are no central tabulæ, in the proper sense of the term, and the central projection is formed by the elevation and convergence of the cells of a central vesicular area—this also removing the genus widely from *Zaphrentis*. Lastly, Mr. Billings considers that the central boss is formed by the elevation of a series of well-developed tabulæ; and he places the genus in the immediate neighbourhood of *Zaphrentis*, or considers, at any rate, that the two genera are very closely allied.

The above discrepancies are so great that it seems probable that several forms, in reality belonging to different genera have been referred to *Clisiophyllum*. Without, however, pretending to decide this point, I shall simply describe here the previously recorded *Clisiophyllum Oneidaense* (Billings), from the Corniferous Limestone of Ontario, together with a related but undescribed form, merely remarking that neither appears referable to the genus *Clisiophyllum* as defined by McCoy.

9. Clisiophyllum Oneidaense (Billings).

(Plate IV. Figs. 4, 5).

Clisiophyllum Oneidaense (Billings), *Canadian Journal*, New Series, Vol. iv, p. 128.

Corallum simple, turbinate, cylindrical or cylindro-conic, often curved. Central area occupied by strong transverse diaphragms or tabulæ, which are more or less strongly elevated

so as to form a central boss or projection. Radiating septa numerous (from eighty to one hundred), varying much in the extent to which they encroach upon the central tabulate area. External area thin, vesicular, its cells formed on the one hand by the septa, and on the other by a series of curved plates, which extend in an arching manner and in a direction nearly parallel with the axis of the coral, obliquely from the central area to the epitheca. When the epitheca is removed, the apertures of the cells of this external area appear on the surface in the form of rectangular openings directed very obliquely inwards. In specimens in which the epitheca is preserved, the surface exhibits encircling ridges and annulations of growth, varying much in their comparative remoteness, sometimes rounded, sometimes sharp-edged. There are also numerous costæ, varying from four to six in a space of two lines in specimens of different sizes. A well-marked septal fossette can usually be detected.

As already remarked, the internal structure of this species does not conform with the definition of *Clisiophyllum* given either by Edwards and Haime or McCoy; and it seems doubtful if it can be retained in this genus. In most respects the species comes nearest to the characters of *Amplexus*, but it is distinguished by the presence of a cone and the possession of an external vesicular area. The cone or central boss is certainly formed by an elevation of the tabulæ of the central area, and the condition of the septa varies very much in different examples which appear to be otherwise referable to this species. Sometimes the septa extend as far as the centre of the coral, being continued across the upper surfaces of the tabulæ in a diminished and rudimentary form. Such examples would, perhaps, come under the definition of *Clisiophyllum* given by Milne Edwards and Haime. More commonly, the septa are comparatively rudimentary, and extend but a short distance from the outer wall, leaving the central tabulæ exposed, very much as occurs in *Amplexus*.

Examples of this species from which the epitheca has been removed, may usually be determined by the peculiar rectangular and obliquely-descending cells of the outer vesicular area. It must be admitted, however, that if the internal structure is not shown it is sometimes difficult to distinguish such specimens from examples of *Blothrophyllum decorticatum* which have been denuded down to the central core.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne, and very abundant in the same formation at Hagersville.

10. Clisiophyllum pluriradiale (Nicholson).

Corallum simple, turbinate or cylindro-conic, straight or curved, of large size. Central area tabulate, the tabulæ strongly elevated so as to form a median boss or projection. Radiating septa exceedingly numerous, alternately large and small, being about one hundred and twenty in specimens of an inch and a half in diameter, and rising to one hundred and eighty in a specimen two inches and a quarter across. The septa extend a considerable distance inwards, and a septal fossette is present. Surface marked with numerous rounded encircling folds and annulations, and also with strong and unusually well-marked septal ridges, about four of which occupy a space of two lines. Dimensions unknown, but great, large specimens having a length of half a foot or more and a diameter of nearly two inches and a half.

This species is clearly separable from *C. Oneidaense* by its generally greater dimensions, the much greater number of its septa in examples of similar dimensions, the absence of an external vesicular area, and the surface characters. Whether it is truly referable to the genus *Clisiophyllum*, however, may be regarded as very doubtful—the central elevation, as in *C. Oneidaense*, being clearly formed by the tabulæ alone.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Ridgeway.

Genus Zaphrentis (Rafinesque).

Corallum simple, turbinate or cylindrical; calice deep, with a single strongly-developed septal fossette occupying the place of one of the septa; no columella; tabulæ well developed, bearing upon their upper surface a series of septa, which extend from the epitheca, nearly or quite to the centre of the corallum. The interseptal loculi usually uninterrupted except by the tabulæ, but sometimes interfered with by dissepiments at the circumference of the coral, giving rise to an outer area of vesicular tissue.

The genus *Zaphrentis* of Rafinesque is identical with the genus *Caninia* of Michelin, and is one of the most natural groups of the Cyathophylloid corals. The most typical forms

of the genus are readily recognized by their thin epitheca, the presence of tabulæ extending quite across the theca as unbroken partitions, the extension of the septa to or near to the centre of the theca, the absence of a columella, and the generally open and uninterrupted condition of the interseptal loculi, except for their being partitioned off by the tabulæ. In some of the forms of the genus, however, the continuity of the interseptal loculi is interfered with, not only by the tabulæ, but by vesicular dissepiments which appear to be independent of the tabulæ; so that there is a central tabulate area, and an external vesicular area. There is also evidence that the tabulæ, though extending quite to the epitheca, are, in their exterior portion at any rate, of the nature of dissepiments placed nearly at the same level in successive interseptal loculi. According to Mr. Billings, also, a well developed or rudimentary columella may be present in *Z. prolifica*, this structure being otherwise unknown in the genus.

Three species of *Zaphrentis*, viz.: *Z. gigantea* (Lesueur), *Z. prolifica* (Billings), and *Z. spatiosa* (Billings), have been already recorded from the Corniferous Limestone of Western Ontario, all of which have come under my notice, whilst I have to record an apparently undescribed form. I have also a small cylindrical, spinulose form, allied to *Z. spinulosa* (Edw. & H.), or to *Z. spinulifera* (Hall), though apparently distinct, which, in the absence of specimens showing the internal structure, I shall leave undescribed.

11. Zaphrentis gigantea (Lesueur).

(Plate III. Figs. 1, 1*a*).

Caryophyllia gigantea (Lesueur).
Zaphrentis gigantea (Edwards & Haime). *Pol. Foss. des Terrs. Pal.* Pl. IV., Fig. 1.
Zaphrentis gigantea (Billings). *Canadian Journal, New Series,* Vol. IV., p. 121.

Corallum simple, cylindro-conic, varying from a few inches up to two feet or more in length, and from one and a half to three inches in diameter, usually more or less curved. Cavity of the theca partitioned off by a well developed series of tabulæ, which are more or less flexuous centrally and are bent downwards as they approach the epitheca. Septa from seventy to one hundred or more in number, unequally developed, or alternately large and small, extending upon the upper surface of the tabulæ nearly to the centre, where they are usually more or less flexuous. A single well marked septal fossette upon one side, extending nearly to the centre. Epitheca with numerous shallow encircling ridges and annulations of growth, which vary in size but are not sharp-edged; and also with costæ corresponding with the septa within.

According to Mr. Billings, the septa in this species vary in number from seventy to eighty. In the examples which I have seen, however, the septa are alternately large and small and, counting in those of both sizes, attain to the number of one hundred or more. They thus come to resemble large specimens of the form described by Mr. Billings, under the name of *Z. prolifica*, from which they may be distinguished by the fact that the latter species is not said to attain a length of over five inches, or a little more, whilst the radiating septa reach the number of one hundred and twenty, or one hundred and fifty. Our specimens, on the other hand, must have attained a length of from nine to twelve inches or more, and do not appear to have more than one hundred and ten septa at the utmost, whilst their form is cylindrical, or cylindro-conical, and not turbinate. I am not satisfied, however, that all the examples which I have here included under *Z. gigantea*, are really referrible to this species, nor that the large and small forms of *Z. prolifica* (Billings), can be retained under a single specific title.

Zaphrentis gigantea (Lesueur) must not be confounded with the large Carboniferous species described by Michelin and McCoy, under the name of *Cuninia (Zaphrentis) gigantea*, and by Edwards and Haime, under the name of *Zaphrentis cylindrica*.

Locality and Formation.—Corniferous Limestone of Ridgeway, Port Colborne, Walpole, and numerous other localities in Western Ontario.

12. Zaphrentis fenestrata (Nicholson).

(Plate IV. Fig. 1.)

Zaphrentis fenestrata, (Nicholson), *Canadian Naturalist*, Vol. vii., No. 3, 1873.

Corallum simple, cylindro-conical, curved. Tabulæ well developed, remote, bending downwards as they approach the outer wall. Septa strong, equally developed, extending

nearly to the centre of the coral, apparently forty-eight in number. Epitheca thin, with a few shallow undulations of growth, but apparently destitute of costæ.

This species is closely allied to the preceding, but appears to be clearly distinct, though the above description is founded upon but a single specimen. It differs from *Zaphrentis gigantea* chiefly in the greater proportionate thickness and much smaller number of the septa, and the greater remoteness of the tabulæ. The former of these characters, as well as the fact that the septa are equally developed, separates it from *Z. prolifica*.

The tabulæ of the circumference of the coral, where they bend downwards to meet the epitheca, seem to be clearly of the nature of dissepiments, as they are not placed at exactly the same level in contiguous interseptal loculi. The specific name is intended to commemorate the peculiar fenestrated appearance exhibited by portions of the coral from which the epitheca has been removed, when the interseptal loculi are seen to be crossed at intervals of from two to three lines, by the obliquely descending tabulæ, producing a series of oblong fenestrules.

Length of the only specimen observed, five inches; diameter of summit, one and a half inches; calice and fossette, unknown.

Locality and Formation.—Corniferous Limestone, Port Colborne.

13. Zaphrentis prolifica (Billings).

(Plate III., Figs. 2, 2*a*.)

Zaphrentis prolifica (Billings), *Canadian Journal*, New Series, Vol. iv., p. 121, figs. 22, 23.

"Corallum simple, turbinate, curved, with a few broad, shallow, encircling folds. Septal fossette of a pyriform shape, gradually enlarging from the margin towards, but not quite reaching, the centre; variable in its position in relation to the curvature of the fossil Radiating septa in the adult specimens between sixty and seventy of the larger size, alternating with a like number of smaller ones; the former, in some of the individuals, extending to the centre on the bottom of the cup, where they are spirally twisted or irregularly contorted; in other specimens, not reaching the centre, which is then occupied by a smooth space, or often with a columella elongated in a direction from the septal fossette towards the opposite side. The septa are also sharp-edged for almost half the distance from the bottom of the cup to the margin, then become gradually less projecting, until at the edge of the cup they are reduced to mere flat, rounded ridges. Length, from four to five inches, or a little more; width of cup, from two inches to two inches and a-half; depth of cup, about one inch."

"Very numerous specimens of young individuals of this species, one inch and a half and upwards in length, and with fifty or more principal radiating septa, occur with those full grown. These small ones might perhaps be regarded as constituting a distinct species, but when good specimens can be observed they all exhibit the characters which are persistent in the large individuals" (Billings).

Whilst having the impression that the small examples just alluded to are specifically distinct from the larger ones with which they are united by Mr. Billings, I must freely admit that our collections are not sufficiently extensive for me to pronounce a decided opinion upon the subject. Large specimens, indeed, having the characters ascribed by Mr. Billings to *Z. prolifica*, are far from common, and I have not come across more than four or five; whilst the smaller examples are exceedingly abundant.

The larger examples are distinguished from *Z. gigantea*, by their smaller dimensions, their turbinate form, the shape of the fossule, and the much greater number of the septa and their rounded edges where they approach the margin of the cup.

The smaller examples, as a rule, exhibit characters by which they can be readily distinguished. They are most commonly about an inch and a half in length, but vary from three quarters of an inch up to three inches. The calice is very deep, but is extremely oblique, its greatest height being on the side of the convex curvature of the coral. The septa are alternately large and small, and the primary septa are always more or less bent and contorted as they approach the centre. The tabulæ are bent downwards on approaching the wall. The epitheca in perfect specimens exhibits a few broad and rounded undulations of growth, with obscurely marked costæ corresponding with the septa within. More commonly the epitheca is denuded, being very thin, when the edges of the septa appear conspicuously on the surface of the coral.

The occasional presence of a columella is a very anomalous feature in this species, not being known to occur in other members of the genus. Mr. Billings, from an examination of a large number of specimens, concludes, however, that the species must be retained in *Zaphrentis*, as he finds a graduated series of forms between those with no columella and those in which this structure is large and well developed.

Locality and Formation.—Extremely abundant in the Corniferous Limestone of Rama's Farm, Port Colborne. Also, in the Hamilton Group of Bosanquet, near Widder.

14. Zaphrentis spatiosa (Billings).

"Corallum short, turbinate, moderately curved and very broadly expanding. At the margin of the cup about ninety radiating septa, alternately a little unequal, and with their edges broadly rounded, as in *Z. prolifica*. Length, measured on the side of the greater curvature, about three inches; width of cup two inches and a half. Septal fossette unknown.

"This species is closely allied to *Z. prolifica*, and may, perhaps, be united with it when its characters become more fully known" (Billings).

I have nothing to add to the above brief description, which has evidently been drawn from imperfect specimens. There are only a few examples in my collection, which I should be disposed to refer to this species; but the reference is uncertain, as hardly anything can be made out of the internal characters of the specimens in question, beyond the fact that they are almost certainly referable to *Zaphrentis*, and that the very broadly expanding form separates them from any other known Corniferous species.

Locality and Formation.—Corniferous Limestone, Rama's Farm, Port Colborne (Billings). Ridgeway and Hagersville (Collection of the author).

Genus Heliophyllum (Hall).

The genus *Heliophyllum* is very closely allied to *Cyathophyllum*, and the following are the definitions of it given respectively by Milne Edwards and Haime, and Mr. Billings:—

1. "Corallum simple. Septal apparatus well developed and producing lateral lamellar prolongations, which extend from the wall towards the centre of the visceral chamber, so as to represent ascending arches, and to constitute irregular central *tabulæ*, and which are united towards the circumference by means of vertical dissepiments." (Milne Edwards and Haime.)

2. "Corallum simple or aggregate; radiating septa well developed, obliquely striated on their sides by thin elevated ridges, which extend from the outer wall in an upward curved course towards the centre. These ridges are connected by numerous thin laminæ, which divide the spaces between the septa into small sublenticular cells. The transverse diaphragms are thin, flexuous, and confined to the central portion of the coral" (Billings).

The internal characters which distinguish corals of the genus *Heliophyllum* (Hall) are thus of a somewhat complicated description. The septa are well developed, and extend nearly or quite to the centre of the theca, where they are often somewhat twisted; but there is no columella. A central tabulate area exists, but of very circumscribed dimensions. Externally to this tabulate area, the interseptal loculi are divided into cells or small compartments by the intersection of two sets of dissepiments having different directions. The dissepiments of the first and most conspicuous set are directed from the internal surface of the wall obliquely, inwards and upwards towards the centre, in a succession of arches the convexities of which are turned upwards. These dissepiments doubtless correspond with that circumferential portion of the tabulæ which is bent downwards towards the base of the coral in species of *Zaphrentis*, *Clisiophyllum*, *Diphyphyllum*, &c. When these dissepiments are more or less imperfect or have suffered destruction, they leave upon the flat surfaces of the septa a corresponding number of arched striæ or ridges. Similarly, in the calice of the coral these dissepiments appear on the free edges of the septa as so many short spines. The dissepiments of the second series are more delicate, more disconnected and much more variable in their direction than those of the preceding series. Sometimes they are nearly vertical, or in other words, are pretty nearly concentric with the theca. Sometimes they are not far from the horizontal, and intersect the dissepiments of the former series at a very acute angle. Most commonly they are directed inwards and downwards from the theca towards the centre, so as to cut the dissepiments of the preceding series nearly at right angles. Decorticated examples of *Heliophyllum* from the Corniferous Limestone exhibit a most characteristic appearance, due to the intersection of the

septa and filled up interseptal loculi with the dissepiments of the first-mentioned series. In this way is produced a succession of vertical ridges and intervening sulci crossed by numerous curved or sharply-zig-zagged encircling ridges.

The species of *Heliophyllum* which have been described by Mr. Billings as occurring in the Devonian Rocks of Canada are *H. Eriense, H. Cayugaense, H. Canadense, H. colligatum, H exiguum, H. Halli,* and *H. tenuiseptatum,* the first five from the Corniferous formation, and the last two from the Hamilton Shales. All of these, except *H. tenuiseptatum,* have come under my notice as occurring in the Corniferous Limestone of Western Ontario; and I have also some new forms to record.

15. Heliophyllum Canadense (Billings).

(Plate V. Fig. 1.)

Heliophyllum Canadense.—Billings, *Canadian Journal,* new series, Vol. IV. p. 125.

Corallum simple, turbinate. Septa between eighty and ninety at a diameter of an inch and a half, carrying on their flat surfaces strong arched striæ at distances of from two-thirds of a line to one line, and on their free edges blunt spines placed at similar distances. Epitheca with strong sharp-edged encircling folds and annulations of growth. "In the bottom of the cup the septa reach the centre, and are there twisted together so as to form a somewhat solid elevated pseudo-columella, around which there is a deep space occupied only by the septa." (Billings).

Dimensions varying from two inches up to half a foot or more in length. One specimen in a perfect state of preservation measured two inches and a half along its convex curvature, and one inch and a quarter along its concave curvature, the diameter of the cup being a little over an inch and a half; and other specimens are still more broadly expanding. This is, perhaps, the commonest species of *Heliophyllum* in the Corniferous Limestone of Western Canada. It is closely allied to *H. Cayugaense* (Billings) and *H. Halli* (Edwards and Haime); differing from the former chiefly in not having a smooth space at the bottom of the cup, and in the fact that the arched septal striæ are on the whole a little nearer together; whilst it is distinguished from the latter by its generally smaller dimensions, and by having the septal spines and striæ more remote.

According to Mr. Billings, the epitheca is sometimes smooth, and there appears to be a septal fossette.

Locality and Formation.— Corniferous Limestone, Port Colborne; Lot 6, Con. 1, Wainfleet; and other localities in Western Ontario.

16. Heliophyllum Colbornense (Nicholson.

(Plate V. Fig. 4.)

Heliophyllum Colbornense, (Nicholson) "Canadian Naturalist," Vol. VII. No. 3, 1873.

Corallum simple, cylindrical, not expanding towards the calice. Septa sixty at a diameter of one inch, carrying on their flat surfaces arched striæ at distances of from one-third to half a line. Epitheca with numerous rounded or sharp-edged constrictions and annulations of growth. A flat space at the bottom of the cup, to the centre of which the septa extend. Cup deep; fossette unknown.

This species is nearly related to *H. Cayugaense* and *H. Canadense* (Billings); but it is, I think, decidedly distinct. It is distinguished from *H. Canadense* by its cylindrical and not broadly expanding form, the cup being equal to or less than the diameter of the coral at a point apparently a little above the base, by the flattening of the bottom of the calice, by the smaller number of septa, and by the greater closeness of the arched septal striæ. From *H. Cayugaense,* the present species is distinguished by its much smaller thickness, its cyliudrical but not expanding form, the smaller number of septa, and the closeness of the septal striæ.

The length of *H. Colbornense* must have been over three or four inches, but none of my specimens are perfect. The dimensions of a broken individual are: length two inches and a half; diameter of broken base one inch; diameter of cup ten lines; depth of cup four lines. In another, also broken, specimen, the length is two inches and a quarter; the diameter at the

fractured base thirteen lines; the diameter of the cup one inch, and the depth of the cup five lines. Other examples apparently referable to this species exhibit a diameter of from one inch and a quarter to one inch and a half.

Locality and Formation.—Corniferous Limestone of Port Colborne.

17. Heliophyllum Cayugaense (Billings).

(Plate V. Fig. 2.)

Heliophyllum Cayugaense (Billings), *Canadian Journal*, new series, Vol. IV. p. 124.

Corallum simple, turbinate, straight or curved. Septa ninety at a diameter of two inches; one hundred and eighty at a diameter of three inches and a half. Arched septal striæ and spines thick and strong, separated from one another by intervals of a line or a little less. Calice with a flattened space at the bottom, and a septal fossette on one side. Epitheca with numerous sharp encircling ridges and folds of growth.

This species is closely related to *H. Canadense* (Billings), from which it is separated by the possession of a flattened space at the bottom of the cup, and by the somewhat greater remoteness of the septal striæ and spines.

Specimens with a calice of two inches across, seem to have been about five or six inches in length, but individuals of the species appear to have attained a much larger size.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne, and other localities in Wainfleet.

18. Heliophyllum Halli (Edwards and Haime).

Strombodes helianthoides (Phillips); Pal. Foss. p. 10. Plate V. Fig. 13. *a*.
Heliophyllum Halli (Edwards and Haime); Brit. Foss. Corals, p. 235. Plate II. Fig. 3, and Pol. Foss. des Terr. Paléozoiques, p. 408, Pl. VII, p. 6.
Heliophyllum Halli; (Billings) *Canadian Journal*, New Series, Vol. IV. Fig. 126.

Corallum simple, broadly turbinate, cylindrical, or cylindro-conic, often variously curved. Septa 80 to 85, slightly twisted towards the centre. Septal ridges and spines separated by intervals of from half to one-third of a line, or even less. Calice circular, moderately deep, with a small septal fossule. Epitheca with encircling annulations of growth, but seldom exhibiting septal ridges when perfect, or at most very faintly.

The form and curvature of this species are extremely variable, and the size no less so; whilst the intervals between the septal spines and striæ vary so much that it seems doubtful if much reliance can be placed on this character in the discrimination of species. The examples of this species from the Corniferous Limestone are mostly of large size, and are not particularly well preserved. Those from the Hamilton group are as a rule small, and occur in a state of exquisite preservation.

Fig. 4.
Heliophyllum Halli (Edw. & H.). A young specimen, from the Hamilton Formation of Arkona.

One very marked feature in *Heliophyllum Halli*, as exhibited in all the Hamilton examples except the smallest, is the mode of growth, which is by a peculiar form of calicular gemmation. When the coral has grown to a certain length, the epitheca gradually extends over the original calice in whole or in part, and a fresh corallite is produced from the primitive oral disc by calicular gemmation, generally from one side of the old cup. After this has lived for a certain period, a third cup is produced in a similar manner; and so the process may be continued, till an aged specimen may consist of six or eight cups arranged in a vertical series, each springing from some portion of the calice of its predecessor. This mode of growth, also, causes a singular irregularity in the form of corals of this species, old examples often looking like a succession of inverted cones inserted one into the other, whilst the curvature of the whole becomes equally irregular by the bending of the successively produced

cups in different directions. True parietal gemmation, on the other hand, I have never noticed to occur in this species. As a similar mode of increase exists in *Cystiphyllum vesiculosum*, as occuring in the Hamilton Group, and as it has not, so far as I know, been observed in the examples of *H. Halli* from the Corniferous Limestone, it seems possible that it is a habit of growth induced by some peculiarity in the surroundings of the coral—such, for instance, as the slow but regular deposition of fine clayey sediment.

Heliophyllum Halli is very closely allied to *H. Canadense*, and I should be inclined to doubt if any distinction of importance between the two species can be maintained. Large examples of *H. Halli*, such as occur in the Corniferous, are separated from *H. Canadense* by their more shallow calice, the comparative closeness of the septal striæ, and their cylindrical or cylindro-conical form; but young specimens of *H. Halli* are often very broadly expanding and turbinate, and the intervals between the septal spines and striæ do not appear to be constant.

Small examples of *Heliophyllum Halli* have a length of half or three-quarters of an inch, with a diameter of calice of from three-quarters of an inch to an inch and a quarter. Large examples may have a length of from five to six inches, with a diameter of calice of two inches and a half. There are also more cylindrical specimens, apparently not separable from this species, which may have a length of two inches or over, with a diameter of calice of not more than from three-quarters of an inch to an inch.

Locality and Formation.—Corniferous Limestone of Port Colborne; Con. 1, lot 6, Wainfleet; Hagersville. Extraordinarily abundant in the Hamilton Formation of Bosanquet, along the course of the Rivière aux Sables. Also in the Devonian Limestone of Devonshire, England (Phillips, and Edwards and Haime).

19. Heliophyllum sub-cæspitosum (Nicholson).

Heliophyllum sub-cæspitosum (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum, small, simple or compound, cylindrical, or slightly expanding towards the calice. Arched septal striæ and spines from a third to a quarter of a line apart. Calice oval or circular, shallow. Septa apparently sixty in number, at a diameter of eight lines. Epitheca with numerous annulations and constrictions of growth. Occasional individuals, with the other characters of the species, appear to be simple, but the majority of examples increase by the production of lateral buds. The new corallites thus produced are few in number (generally not more than one, two, or three), and are directed upwards nearly in the direction of the parent corallite. In some cases calicular gemmation appears also to occur.

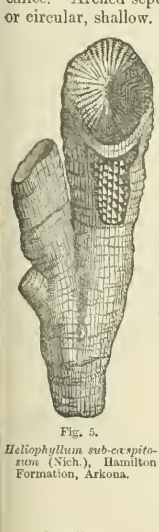


Fig. 5.
Heliophyllum sub-cæspitosum (Nich.), Hamilton Formation, Arkona.

H. sub-cæspitosum has a general resemblance to *Cyathophyllum cæspitosum* of Goldfuss; but the presence of well-marked septal striæ and septal spines proves it to be a true *Heliophyllum*. The latter species also is "fasciculated or astræiform," and increases principally by calicular gemmation; whereas *H. sub-cæspitosum* never produces sufficient buds to form aggregations of any size, and the increase is principally by lateral gemmation. It is, further, distinguished from the other forms of *Heliophyllum* by its comparatively small size, its cylindrical form, and its mode of growth. *H. proliferum* (Nich.) increases in the same way, but is a much larger species, and is distinguished by other characters as well.

Young individuals of *H. sub-cæspitosum* are usually strongly nodulated with irregular growth-swellings, and have a length of from half an inch to an inch, with a diameter at the cup of from two to three lines. Large individuals have a length of from two to three inches, with a diameter of calice of from eight to ten lines.

Locality and Formation.—Common in the Hamilton Formation at Bartlett's Mills, near Arkona, in the Township of Bosanquet.

20. Heliophyllum proliferum (Nicholson).

Corallum large, simple or compound, growing socially in particular localities, where numerous individuals occur together nearly in contact though not organically connected. Form cylindrical, with numerous irregular growth-swellings in the majority of instances.

Calice moderately deep, with about sixty septa at a diameter of fourteen lines. The septa are unequally developed, and extend to the centre of the calice, where they are usually more or less twisted, and are sometimes elevated in the form of a central boss. Arched septal striæ and spines from a third of a line to half a line apart. Some individuals appear to be simple, but most increase by the production of lateral buds, which spring from the parent corallite in an obliquely ascending manner. The epitheca exhibits numerous encircling striæ and annulations of growth.

H. proliferum is readily distinguished from the other species of the genus, by its elongated cylindrical form; its increase by lateral gemmation, and its social habit. Not only is the species composite, in the sense that most of the individuals produce lateral buds, but, so far as I have observed, it is strictly social, vast numbers of individuals occurring together, growing vertically side by side but separate. I have not seen more than one or two buds borne by a single parent corallite, and calicular gemmation appears to be unknown. The only other *Heliophyllum* known to increase by lateral gemmation is *H. sub-cæspitosum*, but this is a very much smaller form, and is solitary in its habits. Detached individuals of *H. proliferum* in which budding appears not to have taken place, may usually be recognised by their great length and almost strictly cylindrical form, there being little or no increase of diameter as the cup is approached. Large individuals have a length of seven or eight inches or more, with a calicine diameter of an inch and a half, and a similar diameter throughout.

Locality and Formation.—Extraordinarily abundant in one bed in the Corniferous Limestone of Ridgeway.

21. Heliophyllum Eriense (Billings).

Heliophyllum Eriense (Billings); *Canadian Journal*, New Series, Vol. IV. p. 124.

Corallum elongate, turbinate, straight or curved. Septa from seventy-four to one hundred and fifty in young and old individuals respectively. Septa extending to the centre of the calice carrying on their sides delicate arched striæ separated by intervals of from a quarter of a line to a sixth of a line. Free edges of the septa "denticulated with from five to seven short spines in the space of one line." Epitheca with sharp annulations and encircling ridges of growth.

This species is readily distinguished by "the closeness of the arched striæ on the sides of the septa, and the minute denticulation on their free edges" (Billings). *H. Eriense* is exceedingly variable in its dimensions, varying in length from an inch and a half up to nearly a foot, and as regards the diameter of the calice from an inch and a quarter up to three inches and a half. The calice is deep, and there appears to be an obscure septal fossula on one side.

Locality and Formation.—Corniferous Limestone, Lot 29, Con. 3, Walpole; and Port Colborne. Very rare.

22. Heliophyllum colligatum, (Billings).

(Plate V, Figs. 3, 3*a*).

Heliophyllum colligatum (Billings); *Canadian Journal*, New Series, Vol. IV. p. 126.

"Corallum forming large masses of long slender corallites, which are connected together at intervals of from two to four lines by periodic expansions of the cup; radiating septa about fifty-two; diameter of the corallites where constricted five lines; and of the expanded cup six to ten lines. Among the full grown there are interspersed some that are immature and of smaller size. The cup is shallow, the sides of the septa striated with from six to eight arched ridges in one line, and their free edges denticulated with the same number of minute spines. In the central area the transverse diaphragms are well developed, and sometimes constitute a pseudo-columella, which exhibits itself in the shape of a small elevated boss in the centre of the cup" (Billings).

This species cannot be confounded with any other. It is remarkable amongst the typical species of this genus in being compound instead of simple; and it has the tabulæ unusually well developed, constituting a central area into which the septa, as a rule at any rate, do not enter. The epitheca is transversely ringed with annulations of growth, and, in the periodic expansions of the cup, with numerous fine encircling striæ, which are crossed by the longitudinal lines which mark the position of the septa. As pointed out by Mr. Billings, *H. colligatum* forms a transition between *Heliophyllum* and *Phillipsastræa*.

Locality and Formation.—Corniferous Limestone of Rama's Farm, Port Colborne, and Walpole.

23. Heliophyllum exiguum (Billings).

Heliophyllum exiguum (Billings), *Canadian Jour.* New Series, Vol. V. p. 261. Figs. 9 & 10.

"Small, turbinate, more or less curved, often flattened on the side of the convex curvature; radiating septa between sixty and eighty; about six obscure arched striæ to one line on their flat sides, and the same number of spines on their edges. The depth of the cup is equal to one fourth or one third of the whole length of the coral. In small specimens, the margin of the cup is thin and sharp; but in large ones rounded, and one line or a little more in width. About one half of the radiating septa reach the centre, and form a small rounded elevation on the bottom of the cup. There is a septal fossette on one side, which, in all the specimens I have seen, reaches the centre. The surface exhibits a few sharp constrictions of growth, with rounded annulations between them, the latter often abruptly terminated on their upper sides. In very perfect specimens, fine encircling striæ of variable size, apparently from eight to fifteen in the width of one line. The horizontal striæ, which indicate the number of septa, are distinctly visible but not strongly marked. The position of the septal fossette is indicated on the outside of the cup by two septal ridges which extend the whole length of the coral, and constitute one of the lines along which the younger septa were added from time to time.

"The greater number of the specimens are from six to nine lines in length, but some are full one inch. The width of the cup is always a little less than the length of the entire fossil. The most common number of septa is sixty. The arched striæ and spines are not often preserved" (Billings).

I have been thus particular in quoting the description given by Mr. Billings of this species at full length, as in studying it, I have met with great difficulties, which I cannot yet entirely explain. The few examples which I collected at Rama's Farm, Port Colborne, (the locality given by Mr. Billings), that I should be disposed to refer to this species, exhibit only the form of the corallum, the epitheca, and the edge of the calice; and the characters of these are sufficiently distinctive, so far at any rate, as the other Canadian species of *Heliophyllum* are concerned. The coral is small and turbinate, and is distinctly flattened along its convex curvature; the epitheca is thick and continuous, and is thrown into strong encircling ridges and annulations of growth, the vertical lines indicating the septa being very faintly marked, and the septa are alternately large and small, and are not denticulated on their flat sides. One perfect specimen only (Fig. 6) have I obtained, showing all the internal characters, from the Corniferous Limestone of Hagersville; and this shows conclusively the distinctness of *H. exiguum* as a separate species of *Heliophyllum*. This specimen is small, turbinate, with a constricted pedunculate base, the longest side being flattened. The total length along the longest side is eight lines, on the shortest side four lines, the diameter of the calice being seven lines. The calice is distinctly quadrangular, moderately deep, with thickened margins, and a very well marked septal fosette. The septa are sixty-four in number, alternately large and small, with about five arched striæ on their flat sides and the same number of short spines on their edges. The septal fossule corresponds with two primary septa, which extend the whole length of the coral, and from the two sides of which the other septa diverge; a peculiarity which I have failed to observe in the examples from Port Colborne. The epitheca shows vertical septal striæ, and encircling annulations of growth.

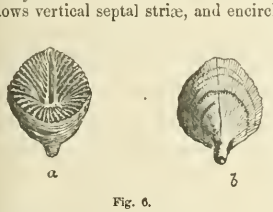


Fig. 6.

Heliophyllum exiguum (Billings); *a*, Front view showing the calice; *b*, Dorsal view of the same. Corniferous Limestone, Hagersville.

Accompanying the specimens of *H. exiguum* (Billings), at Port Colborne, I have found a large number of specimens which agree in some striking characters with *H. exiguum*, but which differ from this species in other characters equally striking—and that to such an extent that I do not see how they can be referred to the genus *Heliophyllum* at all, seeming rather to belong to the genus *Petraia*. The discrepancies of observation indicated here, I do not pretend to reconcile; but I shall provisionally describe the specimens in question as distinct, under the name of *Petraia Logani*.

24. Petraia Logani (Nicholson).

(Plate III. Figs. 3–3 f.)

Petraia Logani, (Nicholson), "Canadian Naturalist," Vol. VII. No. 3, 1873.

Corallum small, turbinate, more or less curved, almost trigonal in transverse section, owing to its being flattened on the side of the convex curvature, and also on the lateral surfaces. Septa twenty-six or twenty-eight a little above the base, but sixty or more at the cup, the increase of number being due to the bifurcation of each primary septum at a distance about a line and a half above the base, and also to the intercalation of new septa along both sides of a line which runs along the dorsal or convex side of the coral from top to bottom. This line is marked on the exterior by two primary septa, which form a prominent ridge externally and pass inwards to the centre of the coral. At the margin of the cup the septa are somewhat unequally developed, being alternately larger and smaller, the larger primary septa being prolonged inwards to the centre of the coral, where they become somewhat bent and twisted together. No columella appears to be present, nor are there any *tabulæ*. The flat sides of the septa are furrrowed with a succession of deep grooves, about four or five in the space of one line, which are directed in an obliquely ascending and arching manner from the wall towards the centre, the interspaces between them being tumid and rounded, and thus imparting a crenulated appearance to the outer edges of the septa when exposed. These arching grooves are not connected with lamellar dissepiments having a similar direction, but the septa for some little distance below the cup are united by delicate transverse dissepiments. The epitheca is marked with a few annulations of growth, which are mostly very obscure, and with well marked costæ corresponding with the septa.

In none of the specimens in my possession does the epitheca extend more than half an inch (often less) above the base of the corallum. Beyond this point to the margin of the calice the edges of the septa are seen with their characteristic crenulated appearance, and united here and there by minute dissepiments. As already noted, the flattened convex side of the coral always exhibits two pre-eminently large septa produced by the splitting of one, which run from the top to the bottom of the coral in a straight line. The remaining septa are directed obliquely from both sides towards this central pair; so that new septa are intercalated along this line in proceeding from the base to the calice. It is probable that these two septa may mark the position of a fossule in the cup, but none of my specimens exhibit the interior of the calice, and I am, therefore, unable to speak positively on this point. For the same reason I can say nothing as to the condition of the free edges of the septa internally.

The total length of the corallum is from three-quarters of an inch to one inch, the diameter of the cup varying from half an inch to nearly three-quarters. The calice is oblique, so that the greatest length of the coral is along its convex curvature.

Petraia Logani is closely allied to *Petraia* (*Turbinolopsis*) *pluriradialis* (Phillips), with which I was at first sight disposed to identify it. It is, however, readily distinguished by the flattening of the convex curvature and lateral aspects of the coral, and by the smaller number of radiating septa. As regards other more minute characters, the published descriptions of *P. pluriradialis* are not sufficient to enable any closer comparison to be instituted with advantage between the two species.

With regard to *Heliophyllum exiguum* (Billings), it may be well to present, in a summary form, the points of agreement and difference which appear to exist between the two species:—

1. Both corals are of the same general form and size, and both occur in the same formation and at the same locality.

2. Both possess a principal pair of septa, which are visible externally as two straight ridges extending from the top to the bottom of the coral, the remaining septa being directed obliquely towards this line on both sides. (When writing my original description of *P. Logani* in the *Canadian Naturalist*, 1873, I had not succeeded in detecting this feature in *H. exiguum*.)

3. The number of septa in the cup appears to be about the same in both, though stated to be sometimes as many as eighty in *H. exiguum*, whilst they never appear to exceed sixty-five in *P. Logani*.

The above are the chief points of agreement, but there are the following points of difference:—

1. *Heliophyllum exiguum*, though this is not specially alluded to, must possess more or less well developed *tabulæ* ; but no traces of such structures can be detected in *P. Logani*, in longitudinal sections or in fractured specimens.

2. The septa in *H. exiguum* exhibit on their flat sides "about six obscure arched *striæ* to one line." Those of *P. Logani* exhibit a succession of arched *grooves* of considerable width, separated by somewhat tumid interspaces ; and there are only about four or five of these grooves in the space of one line. Nor does it appear possible that this discrepancy is due to any confusion on my part between *casts* of *P. Logani* and the actual coral itself, such a mistake seeming to be out of the question in dealing with the well-preserved specimens of the Corniferous Formation.

3. The septa in *P. Logani* bifurcate regularly in proceeding from the base to the cup, thus being always arranged in pairs in the upper part of the coral ; whilst those of *H. exiguum* are alternately large and small, and do not appear to bifurcate.

4. When looked at in transverse sections of the cup, the septa of *H. exiguum* appear to possess plain or but slightly denticulated sides, whilst those of *P. Logani* are furnished with strong tooth-like dissepiments or spines, which sometimes extend to the contiguous septum.

5. The septal ridges on the exterior of *P. Logani* are more strongly marked than in *H. exiguum ;* and the epitheca of the former rarely or never appears to extend to the margin of the calice, though it is certainly difficult to say positively whether this appearance is natural, or is due to the partial decortication of the coral.

Upon the whole, I think that the fossil here described as *Petraia Logani* is distinct from previously described forms, and I do not see how it can, under any circumstances, be referred to the genus *Heliophyllum*.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Rama's Farm, Port Colborne, and also at Hagersville.

Genus Amplexus (Sowerby).

In this genus the corallum is simple, and in all essential respects similar to *Zaphrentis* except that the septa are much less highly developed, and do not extend to the centre of the coral, so that the tabulæ are left exposed and free to view over a wide central area. The following is the only species which has as yet been detected in the Corniferous Limestone of Ontario.

25. Amplexus Yandelli (Edw. & H.).

Amplexus Yandelli (Edwards & Haime). *Pol. Foss. des Terr. Paléozoiques*, p. 344, Pl. III. Figs. 2, 2*a*.

Amplexus Yandelli (Billings). *Canadian Journal*, New Series, Vol. IV., p. 123.

Corallum simple, cylindrical, straight or curved. Calice varying in diameter from half an inch up to an inch and a half. Epitheca marked with from forty-five to sixty-five strong and angular septal ridges, which in well-preserved examples are crossed by fine encircling striæ, and a few remote and regular folds of growth. The septa do not extend more than from half a line to two lines from the wall, leaving the tabulæ exposed over a large central area. The tabulæ appear to be generally flat ; and the septa have plain sides, and are alternately large and small.

Amplexus Yandelli is not a common species in the Corniferous Limestone, and does not appear, so far as known, to occur at all in the Hamilton Group. As a rule, it may readily be recognised, even in fragmentary specimens, by the surface-characters, which are unlike those of any other of the simple corals of the Corniferous with which I am acquainted.

Locality and Formation.—Corniferous Limestone of Port Colborne. Also near Woodstock (Billings).

Genus Diphyphyllum (Lonsdale).

Corallum simple, associated into large aggregations of long slender cylindrical flexuous corallites, increasing by parietal or calicinal gemmation, and placed usually at a greater or less distance from one another. Internally a central area occupied solely by tabulæ, and usually not encroached upon by the septa, with an exterior vesicular zone occupied by the septa. No columella.

There has been much difference of opinion as to the validity of the genus *Diphyphyllum* of Lonsdale, chiefly arising from the fact that its original founder erroneously made its supposed fissiparous mode of division, a generic character, Milne Edwards and Haime, however, pointed out that the mode of increase in the corals referred here is truly by gemmation, and not by fission. Hence, they refused to accept the genus, and placed the corals previously referred here under *Cyathophyllum* and *Lithostrotion*. Upon the whole, however, there can be little hesitation in adopting the view advocated by Mr. Billings, (*Can. Journal*, new series, Vol. IV. p. 134,) and in retaining *Diphyphyllum* as a distinct genus.

Diphyphyllum, as above defined, differs from *Cyathophyllum* in its distinctly bi-areal structure, the septa not extending to the centre, as they do in the latter genus, nor being twisted together, so as to produce the appearance of a small columella.

From *Lithostrotion*, which it closely resembles in most respects, *Diphyphyllum* is separated by the invariable absence of a columella. Milne Edwards and Haime, (" British Fossil Corals," p. 195,) express their opinion that the absence of the columella in *Diphyphyllum* is accidental and due to the process of fossilisation. As pointed out by Mr. Billings, however, there can be no question as to the incorrectness of this opinion, the columella being entirely wanting in the most beautifully preserved examples of *Diphyphyllum*.

From *Amplexus*, *Diphyphyllum* is separated by the general form of the coral, by the greater development of the septa, and by the absence of a septal fossule.

In all essential points of their structure the genera *Eridophyllum* and *Diphyphyllum* are identical, the sole difference of importance being that the corallites in the former genus are united to one another laterally by horizontal root-like prolongations of the epitheca. It must be admitted, however, that specimens of *Diphyphyllum* occasionally exhibit similar connecting processes, though these are never developed to any extent, and can only be detected by a careful examination.

The characters of the genus *Diplophyllum* (Pal. N. Y., Vol. II. p. 115),founded by Hall for the reception of a common coral from the Niagara Limestone, do not appear to differ essentially from those of *Diphyphyllum*, except that the outer vesicular layer in the former is stated to be separated from the central tabulate area by a distinct mural investment. It is probable, however, that Mr. Billings is correct in uniting the two genera.

Two species of *Diphyphyllum* have been described by Mr. Billings from the Corniferous Limestone of Western Ontario, being amongst the most conspicuous corals of the formation. I have also detected specimens inseparable from *D. gracile* of McCoy, if indeed the latter is not truly identical with *D. stramineum* (Billings).

26. Diphyphyllum arundinaceum (Billings).

(Plate VI. Fig. 1.)

Diphyphyllum arundinaceum (Billings), *Canadian Journal*, New Series, Vol. IV, p. 134.

"Corallum forming large masses of long cylindrical straight or flexuous stems, from three to four lines in diameter, but usually distant from one to three lines from each other; radiating septa thin, betwen forty and fifty in number, rarely reaching the centre; transverse diaphragms turning downwards on approaching the margin; two to four in one line. In some of the corallites the walls are so thin and closely united that no separation can be observed, but in others of the same cluster an outer area is distinctly visible. There is usually a circular space in the centre of the corallites, into which the radiating septa do not penetrate; often however they reach the centre. The young corallites sometimes spring from the sides of the parent with a slender base, and curving upwards immediately become parallel with those of the whole group. In large colonies frequent instances may be seen, where, instead of this lateral budding, a bifurcation takes place, both branches being of the same size. In large groups, owing to the numerous additions of young, the corallites diverge slightly, as if radiating from a point. The colonies are from six inches to several feet in diameter, and large blocks of stone are of frequent occurrence, which are penetrated at right angles to the stratification by the closely crowded stems" (Billings).

Diphyphyllum arundinaceum (Billings) is distinguished from the following species chiefly by the almost uniformly greater size of the corallites, which average three or four lines in diameter when fully grown. In shape the corallites are cylindrical, with annulations and

constrictions of growth ; they may be straight, or more or less flexuous ; and they vary in their distance apart. The epitheca is marked with numerous extremely close-set and delicate encircling striæ, together with more or less conspicuous vertical striæ, which mark the position of the septa within. Occasionally, the corallites are united by lateral connecting processes derived from the epitheca, similar to those which characterise the genus *Eridophyllum ;* but these processes are always remote, and are only an occasional feature. The septa are from forty to forty-two, alternately large and small, and rarely encroaching upon the central tabulate area. The tabulæ are regularly depressed and bent downwards as they pass through the outer vesicular zone on their way to reach the margin ; but they are sometimes more or less flexuous. Increase of size, so far as I have observed, seems to be always by the production of lateral buds, but it is possible that calicular gemmation sometimes occurs, and Mr. Billings states that bifurcation of the corallites takes place occasionally.

Very commonly the corallites of this species have attached to their surface the singular aduate coral which I have described under the name of *Aulopora* (?) *Canadensis*, along with the tubes of a species of *Spirorbis*.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne, and Lot 6, Con. 1, Wainfleet ; also "in various localities in the townships of Walpole, Oneida, Cayuga, and Wainfleet" (Billings).

Diphyphyllum stramineum (Billings).

(Plate V., Fig. 6.)

Diphyphyllum stramineum (Billings), *Canadian Journal*, New Series, Vol. iv., p. 135. (Compare *Diphyphyllum gracile* (McCoy), *British Pal. Foss.* p. 88, figs. *d, e, f*).

"Corallum forming large masses of cylindrical tubes, averaging two lines in diameter, and either so closely aggregated as to be nearly in contact, or separated from one another by intervals of from one to five lines, the distance varying in different clusters and in different parts of the same. Sometimes numerous single tubes occur scattered through the rock, which were probably derived from some disintegrated group. The tubes are either straight or flexuous, smooth, or annulated by short encircling folds of growth, the surface striated longitudinally by the outer edges of the septa. The latter are about forty in number, and do not reach the centre. The transverse diaphragms are well developed, slightly convex in the centre, and appear to be suddenly turned down on approaching the margin. The outer vesicular area is thin, seldom exceeding one-sixth of the whole diameter. The central area altogether occupied by the transverse diaphragms ; sometimes in well-preserved specimens, the septa may be seen extending about half way to the centre, upon the surface of some of the diaphragms, but in general they are confined to the outer area. In the more dense colonies, the corallites often inosculate, and are sometimes connected by lateral processes, as in the species of the subgenus *Eridophyllum*" (Billings).

I doubt if the distinctness of this species from *Diphyphyllum gracile* (McCoy) can be maintained. The distinction given by Mr. Billings is that the septa of the latter are alternately large and small, whereas in *D stramineum* they are all nearly equal in size ; but it may be questioned if this distinction would be alone sufficient to separate the two forms. At any rate, I have found in the Corniferous Limestone, a number of specimens which agree with *D. gracile* in most respects, and which I shall, therefore, describe under that name.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne and Lot 6, Con. 1, Wainfleet.

28. Diphyphyllum gracile (McCoy).

(Plate V. Fig. 5.)

Diphyphyllum gracile (McCoy), *Brit. Pal. Foss.*, p. 88, figs. *d, e, f.*

Corallum forming colonies of cylindrical, straight, or flexuous corallites, the diameter of which varies from two to three lines, being most commonly about two lines and a half. Surface with annulations of growth, and vertical lines marking the position of the septa. These latter

from forty to forty-four in number, alternately large and small, the small ones being very minute. A well-marked central tabulate area, upon which the septa do not encroach. Tabulæ bent downwards on approaching the margin.

I can not distinguish our forms from the species described by McCoy from the Carboniferous Limestone of Northumberland, under the name of *D. gracile* (*Pal. Foss.* p. 88). Milne Edwards and Haime suggest that *D. gracile* was founded upon a specimen of *Lithostrotion irregulare*, in which the columella had been accidentally destroyed in the process of fossilization (*Brit. Fossil Corals*, p. 199). This explanation would certainly not apply to our examples, which are exceedingly well preserved, and exhibit no trace of a columella. The only distinction that I can find between the Corniferous specimens and *D. gracile* is that the former are generally rather over two lines in diameter, but it does not appear that much value should be attached to this.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Ridgeway.

Genus Eridophyllum (Edwards and Haime).

"Corallum composite, and increasing by lateral gemmation. Corallites tall, cylindroid, and provided with a thick epitheca, which gives rise to a vertical series of short and thick subradiciform productions that extend to the next individual and unite them together. Tabulæ well developed, and occupying the central area circumscribed by the inner wall. Septal apparatus occupying the annular area situated between the outer and inner mural investment, but not extending into the inner or central area." (*Edw. & H. Brit. Fossil Corals. Introduction p.* lxxi.)

The only difference between *Diphyphyllum* and *Eridophyllum* is that the corallites of the latter are united at greater or less intervals by horizontal connecting processes. We have seen, however, that similar processes, though not so well developed, are sometimes present in species of *Diphyphyllum;* and there are also examples of *Eridophyllum* in which the connecting processes are few and far between, and are by no means a conspicuous feature. It may be questioned, therefore, if the distinction between *Eridophyllum* and *Diphyphyllum* is one that can be maintained.

Three species of *Eridophyllum* have been recorded by Mr. Billings from the Corniferous Limestone of Western Ontario, viz.: *E. Verneuilianum* (Edwards and Haime), *E. Simcoense* (Billings), and *E. strictum* (Edwards and Haime); but only the first two of these have come under my notice.

29. Eridophyllum Simcoense (Billings).

(Plate VI. Fig. 5.)

Eridophyllum Simcoense.—(Billings), *Canadian Journal*, New Series, Vol. IV. p. 131, Fig. 27.

Corallum forming colonies of cylindrical, straight, flexuous, or crooked corallites, from two to three lines in diameter, distant from one another from one to three lines, and united by short horizontal connecting processes at intervals varying from two to six lines. The connecting processes are thick where they spring from the wall of the corallite, thin in the middle, and again thick where they join the contiguous corallite; and they are often, though by no means universally, all turned the same way in the same colony. The surface usually exhibits encircling folds of growth, along with vertical ridges corresponding with the septa. There is a well developed central tabulate area, into which the septa penetrate slightly or not at all. The septa are between forty and fifty in number, alternately large and small.

Typical examples have the corallites straight, with the connecting processes placed at tolerably uniform distances, but many examples occur in which the corallites are very crooked and the intervals between the connecting processes extremely variable. Increase by parietal gemmation, the young individual bending upwards and becoming parallel with the older corallites, is a phenomenon which can commonly be observed.

It is possible, as hinted by Mr. Billings himself, that *Eridophyllum Simcoense* may turn out to be identical with the Upper Silurian species described by Milne Edwards and Haime under the name of *E. rugosum*. The corallites of the latter, however, appear to be decidedly more slender in their dimensions, and they are stated to possess only twenty septa, though

this latter character may depend simply upon the fact that the small secondary septa were neglected in the enumeration. Upon the whole, however, it is safer to keep *E. Simcoense* distinct.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne, Ridgeway, Lot 6, Con. 1, Wainfleet, and also, according to Billings, near the Town of Simcoe.

ERIDOPHYLLUM VERNEUILANUM (Edwards and Haime).

Eridophyllum Verneuilanum (Edwards and Haime), Pol. Foss. des Terr. Paléozoiques, p. 424, Plate VIII. Figs. *b, b, a.*

Eridophyllum Verneuilanum (Billings), *Canadian Journal*, New Series, Vol. IV. p. 131, Fig. 26.

Corallum consisting of cylindrical, straight or slightly flexuous corallites, from four to six lines in diameter, united by horizontal connecting processes, placed at intervals of from half an inch to an inch and a-half apart. Septa about forty-five in number, alternately large and small, extending very nearly to the centre of the corallite, and thus invading the central tabulate area. Septa connected in the outer zone of the corallite by numerous dissepiments. The distance between the different corallites of the colony varies much, being sometimes half an inch or more, whilst in other cases the corallites are nearly or quite in contact.

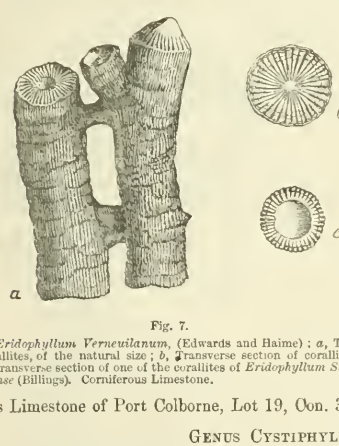


Fig. 7.

Eridophyllum Verneuilanum, (Edwards and Haime) ; *a*, Two corallites, of the natural size ; *b*, Transverse section of corallite ; *c*, Transverse section of one of the corallites of *Eridophyllum Simcoense* (Billings). Corniferous Limestone.

Eridophyllum Verneuilanum is readily distinguished from *E. Simcoense*, by the much greater size of the corallites, the much greater remoteness of the connecting processes, and the greater development and inward extension of the septa. Increase by parietal gemmation can often be observed. The epitheca is marked with obscure annulations of growth and vertical striæ corresponding with the septa.

In the original description by Milne Edwards and Haime, the septa in this species are said to be only twenty-two in number. As pointed out by Mr. Billings, however, this depends upon their having counted the primary septa only, the total number of septa being thus the same as in our Canadian examples.

Locality and Formation.—Corniferous Limestone of Ridgeway, common. Also, according to Mr. Billings, in the Corniferous Limestone of Port Colborne, Lot 19, Con. 3, Walpole, and near Woodstock.

GENUS CYSTIPHYLLUM (Lonsdale).

Corallum simple, turbinate or cylindrical, rarely aggregate. Interior of the theca filled with vesicular tissue; the septa rudimentary or absent.

Five species of this genus, viz.: *C. Senecaense*, Billings, *C. grande* (Billings), *C. sulcatum*, (Billings), *C. Americanum* (Edwards and Haime), and *C. aggregatum*, (Billings), have been described by Mr. Billings, as occurring in the Devonian rocks of Western Ontario; and of these all but the last have come under my notice as occuring in the Corniferous Limestone. *C. vesiculosum* (Goldfuss), also occurs in the Corniferous, and very abundantly in the Hamilton formation.

31. CYSTIPHYLLUM SENECAENSE (Billings).

(Plate VI. Fig. 6.)

Cystiphyllum Senecaense (Billings), *Canadian Journal*, New Series, Vol. IV. p. 137.

Corallum simple, cylindro-conic, or cylindrical, elongated, straight or variously curved. Epitheca thin, almost invariably decorticated. Calice deep, smooth, or tuberculated,

sometimes with ridges representing the septa. Interior of the coral entirely occupied by vesicular tissue, the cells of which are extremely oblique to the surface, or almost parallel with it, and vary from half a line to a line and a half or more in height, the largest being near the centre. Length most usually from two inches and a half to a foot; diameter from three quarters of an inch to an inch and a half.

This species is the commonest of the forms of *Cystiphyllum* in the Corniferous Limestone. It is allied to *C. vesiculosum* (Goldfuss), but differs in its larger and more oblique cells, and its thinner epitheca. Most generally the coral is found in a completely decorticated condition, when the cells are generally seen to be plainly arranged in a succession of infundibuliform layers, each of which represents a periodic calice; so that the specimen looks as if it were composed of a series of hollow cones fitting into one another. According to Mr. Billings, specimens sometimes reach a length of two feet; but they are most commonly from four or five to nine inches long.

Locality and Formation.—Common in the Corniferous Limestone almost everywhere in Western Ontario.

32. Cystiphyllum grande (Billings).

Cystiphyllum grande (Billings), *Canadian Journal*, New Series, Vol. IV. p. 138.

"This species is very large, turbinate, more or less curved, and enveloped in a thin wrinkled epitheca. Cup deep, bell-shaped, either striated with the rudimentary radiating septa, or consisting of an uniform surface of the small depressed convex cellular elevations. The growth appears to have been intermittent, or by the formation of successive layers of cells, upon the inner surface of the cup, and consequently in longitudinal sections the substance of the whole mass is seen to be arranged in a series of funnel-shaped strata, placed one within another. The separation between the layers is much more distinct in some specimens than in others" (Billings).

C. grande is closely allied to *C. vesiculosum*, (Goldfuss), and *C. Senecaense*, (Billings); but it is distinguished from the former by its much larger dimensions, and from the latter by its broadly expanding instead of cylindrical form. Though mostly from six inches to a foot in length, Mr. Billing mentions that it attains a length of three feet and a diameter of five inches. It is not a common species.

Locality and Formation.—Corniferous Limestone, Walpole; and Lot 6, Con. 1, Wainfleet.

33. Cystiphyllum Americanum (Edwards and Haime).

(Plate VI. Fig. 8.)

Cystiphyllum Americanum (Edwards and Haime), Pol. Fos. des Terr. Paléozoiques, p. 464. Plate XIII. Fig. 4.

Cystiphyllum cylindricum (Hall), Geology of New York, Part 4, p. 209, No. 48, Figs. 1 and 2. (Not *Cystiphyllum cylindricum*. Edwards and Haime).

Cystiphyllum Americanum (Billings), *Canadian Journal*, New Series, Vol., IV. p. 139.

Corallum simple, very variable in form, mostly more or less curved, elongated, cylindrical, sometimes increasing in diameter towards the cup, sometimes diminishing. Epitheca thin, sometimes nearly smooth and with but a few encircling annulations of growth and fine striæ, more commonly with numerous pronounced encircling folds, which are usually sharp-edged and imbricating, but sometimes rounded. Calice moderately deep, usually circular, sometimes disproportionately small as compared with the size of the corallum. Septal furrows in the interior of the calice usually well-marked, but generally consisting of rows of elongated vesicles. The bottom of the calice, also, is usually occupied by a group of larger or smaller bullæ. Internal structure vesicular throughout, the vesicles near the exterior varying from less than half a line to a line and a half in width and those of the centre being a little larger. The smallest individual observed had a length of one inch, and a diameter of the cup of half an inch; the largest had a length of four inches and a diameter of the calice an inch and a quarter, but larger individuals than this appear to occur.

In form *C. Americanum* is extremely variable, the most common type being perfectly straight; and the next most common type being abruptly curved, nearly at right angles, from a

little above the base, and then continuing straight to the cup. The species is allied to *C. Senecaense* (Billings), but is distinguished from this by its cylindrical form, and its surface-characters, and by the fact that its cells do not appear to be arranged in infundibuliform layers. From *C. vesiculosum* (Goldfuss), it is distinguished by its smaller size (as a rule), its comparatively smooth epitheca, its shallower and smaller calice, and its cylindrical shape. It also rarely exhibits the calicular gemmation which is so common in the latter species, though this phenomenon can occasionally be observed.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne. Very abundant in the Hamilton Formation, at Bartlett's Mills, near Arkona, Township of Bosanquet.

34. CYSTIPHYLLUM VESICULOSUM (Goldfuss).

Cyathophyllum vesiculosum (Goldfuss), Petref. Germ. p. 58, Pl. XVII, Fig. 5, and Pl. XVIII, fig. 1.

Cystiphyllum vesiculosum (Phillips), *Pal. Foss.*, p. 10, Pl. IV, fig. 12.

Cystiphyllum vesiculosum (Milne Edwards and Jules Haime), *Pol. Foss. des Terr. Paléozoiques.* p. 462.

Cystiphyllum vesiculosum (McCoy), *Brit. Pal. Foss.*, p. 71.

Corallum simple, elongated, turbinate or cylindro-conic, sometimes nearly cylindrical. Epitheca exceedingly strong, exhibiting numerous fine encircling striæ, along with many well-marked annulations of growth, which sometimes have the form of circular wrinkles, but which at other times are sharp-edged and imbricating. Not uncommonly the folds of the epitheca are laterally prolonged in the form of wing-like extensions. Calice very deep, its walls extraordinarily thickened in aged examples, and its bottom usually occupied by a group of bullæ. Septal striæ in the interior of the calice usually very distinct, but appearing to be made up of a succession of elongated vesicles. Internal structure vesicular, the largest of the vesicles being central, and having a diameter of a line to a line and a half. Young individuals are truly simple, but older examples increase by calicular gemmation, a succession of vertically superimposed corallites being thus produced. In an individual of average size, the length is three inches, the diameter of the calice is an inch and a quarter, and the depth of the calice is an inch and a quarter. Large individuals occur, however, in which the length must have been between half-a-foot and a foot, whilst the diameter is nearly three inches.

Fig. 8.
Cystiphyllum vesiculosum (Goldfuss) of the natural size, Hamilton Formation, Arkona.

Our specimens agree exactly with those figured by Goldfuss in his great work, and there cannot be the smallest doubt as to their identity. Our specimens show, also, in a most marked manner, a feature which is present in most of the examples figured by Goldfuss —viz., growth by means of calicular gemmation, just as has been already described in *Heliophyllum Halli.* In this peculiar mode of increase (fig. 8) the coral attains a certain growth, and the calice becomes then more or less obliterated by the extension over it of the epitheca. Then a new bud is thrown up from the calice, generally directly above the old one, and this too continues to grow for a certain period. A third bud is then produced in a similar manner, and a fourth, fifth, or sixth may be similarly produced, until the entire corallum may consist of a series of short turbinate cups, or inverted cones, superimposed one above

the other, the younger upon the older. As the direction of the new cups does not always accord with that of the old ones, the general form produced by this mode of increase is often very peculiar and irregular. Some specimens also show extraordinary lateral prolongations of the epitheca.

In many respects, *C. vesiculosum* resembles *C. Senecaense* and *C. grande*, but it is on an average larger than the former and smaller than the latter. It is also distinguished by its mode of increase, the disposition of its cells, its very deep calice, and its surface-characters. From *C. Americanum* it is distinguished by its larger size, more turbinate form, larger calice, and wrinkled epitheca.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne and Hagersville. Very abundant in the Hamilton Formation of Bartlett's Mills, near Arkona, Township of Bosanquet.

35. Cystiphyllum sulcatum (Billings).

(Plate VI. Fig. 7).

Cystiphyllum sulcatum (Billings), *Canadian Journal*, New Series, Vol. IV. p. 136.

"Corallum simple, short, turbinate, much curved, expanding at the rate of between forty and forty-five degrees from the minute sharp curved point upwards; cup oblique, the lower margin being on the side of the lesser curvature, moderately deep, and nearly regularly concave, the bottom covered with obscure coarse rounded radiating ridges; a shallow rounded groove or fossette extending from the centre to the higher margin, and in some specimens two others much less distinct, radiating to the sides at right angles to the main groove. Exterior encircled by obscure undulations, and longitudinally striated by the rudimentary radiating septa. The vesicular structure consists of irregular sub lenticular cells, from half a line to two lines in width; length of the convex side, from one inch and a half to three inches; the usual length appears to be about two inches or a little more; width of cup from one inch to one inch and a half; depth about half an inch" (Billings).

This pretty little species, in its external appearance, presents a close resemblance at first sight to small specimens of *Zaphrentis prolifica* (Billings,) from which, of course, its internal structure separates it at once. The epitheca is tolerably thick, and exhibits with unusual distinctness the vertical ridges which mark the position of the septa, along with numerous rounded annulations and folds of growth, these latter being sometimes obscure. *C. sulcatum* can readily be distinguished from all other species of the genus by its general form, its surface-characters, the great obliquity of the calice and the fossular furrow.

Locality and Formation.—Corniferous Limestone, Rama's Farm, Port Colborne.

Genus Microcyclus (Meek and Worthen).

"Corallum free or with a minute central point of attachment, discoidal, without columella; calice very shallow or nearly obsolete, and provided with a single small fossette; septa short, nearly regularly radiating, or with a few of those nearest the fossette converging a little towards its sides; epitheca well developed.

"This little coral seems to be nearly related to *Combophyllum* and *Baryphyllum*, (Edwards and Haime), but differs from the first in having a well-developed epitheca, and from the latter, not only in that character, but in having its fossette simple, and its costæ nearly regularly radiating. It also presents similar differences from *Hadrophyllum* of Edwards and Haime." (Meek and Worthen, Geology of Illinois, Vol. III. p. 420).

36. Microcyclus discus. (Meek and Worthen).

Microcyclus discus. (Meek and Worthen,) Geol. of Illinois, Vol. III. p. 420, Pl. XI. Fig. 7, *a. b.*

"Corallum depressed-discoid; periphery sharp, under side flat, and protected by the concentrically-wrinkled epitheca; upper side slightly convex, flat or a little concave in the middle; fossette small, shallow, and extending from the centre to the margin. Septa very

short, thick, and extending only about half-way in from the margin towards the middle (the central region being smooth), numbering from twenty to twenty-five at their inner ends, but each bifurcating so as to double this number at the margin; sometimes the one on the side opposite the fossette is divided into three." (Meek and Worthen, loc. cit.).

Fig. 9.

Microcyclus discus (Meek and Worthen); *a* upper surface, enlarged. (The cross shows the true dimensions); *b* under surface of the same specimen, of the natural size.

Having only obtained a single well preserved specimen of this pretty little coral, now for the first time recorded from Canada, I have nothing of importance to add to the above description. Our specimen has a diameter of five lines, and a height of half a line; and the flat central area of the calice is at one point elevated into a small pointed boss.

Locality and Formation.—Rare, in the Hamilton formation, at Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Haimeophyllum (Billings).

"Corallum aggregate, consisting of colonies of long slender sub-parallel corallites, united laterally by periodic expansions of the cup. Internal structure of vesicular diaphragms, as in the genus *Michelinia;* radiating septa rudimentary" (Billings). The following species, from the Corniferous Limestone is at present the only one known.

37. Haimeophyllum ordinatum (Billings).

Haimeophyllum ordinatum (Billings), *Canadian Journal*, New Series, Vol. IV. . 139, Fig. 29.

"Corallum forming large, sub-globular or flat hemispheric masses; average diameter of the corallites in the constricted portions one line and a half to two lines, and of the expansions two and a half to three and a half lines. The epitheca, where it can be seen between the expansions, is more or less distinctly marked with the horizontal septal striæ. There appears to be about forty internal striæ. The expansions which connect the corallites are periodical, or occur at the same level in all the individuals at distances of from one to three lines" (Billings).

This remarkable coral cannot be confounded with any other, its peculiar mode of growth appearing alone to be quite distinctive. The larger masses appear to be formed of successive strata, the corallites of each stratum being usually short (half an inch in height), and being superimposed upon those of the inferior strata, not directly but alternately, so that the corallites of one stratum appear to spring from the periodic calicine expansions of the corallites in the stratum below. All examples, however, do not show this; and it is possible that the specimens exhibiting this peculiarity are referrible to a new species.

Locality and Formation.—Corniferous Limestone of Port Colborne, Hagersville, and Lot 6, Con. 1, Wainfleet.

Genus Syringopora (Goldfuss).

Corallum aggregate, at first creeping, after the manner of *Aulopora*, then sending up numerous vertical, cylindrical corallites, which are usually flexuous and sub-parallel, and are connected together laterally by numerous transverse connecting processes. Epitheca well developed; septa, rudimentary; tabulæ, close-set and infundibuliform, or placed within one another like a series of funnels.

The characters of the genus *Syringopora* are very well marked, and as a rule there is not the smallest difficulty in recognising any example of this genus. If, however, the *Syringopora laxata*, and *S. nobilis* of Mr. Billings are to be retained here, then the definition of the genus must be somewhat modified, since the corallites of the former species have the habit of

a *Diphyphyllum* and are not connected by horizontal processes; whilst the latter in its adult state seems to have entirely the habit of an *Aulopora* with the internal structure of *Syringopora*, but equally without connecting processes.

Five species of *Syringopora* have been recorded by Mr. Billings from the Corniferous Limestone of Western Ontario, all of which have come under my observation in the same formation.

38. Syringopora nobilis (Billings).

Syringopora nobilis (Billings), *Canadian Journal*, New Series, Vol, iv., p. 118.

Fig. 10.
Syringopora nobilis, (Billings), a fragment of the natural size. Corniferous Limestone.

Corallum, lax, spreading, increasing by the production of lateral buds. Corallites very large, varying with age from one and a half lines to five lines in diameter, apparently not connected by transverse processes. Septa obsolete; tabulæ infundibuliform. Epitheca thick, with encircling striæ and stronger annulations.

Internally this species has all the characters of *Syringopora*; but the corallites are much larger than in any other known species of this genus, and I have never seen any specimen in which transverse connecting processes are developed. It is doubtful, therefore, if the species can with propriety be retained under *Syringopora*. The usual diameter of the corallites is about three lines, but young examples have a diameter of one and a half lines, whilst Mr. Billings states that full grown specimens sometimes attain a diameter of no less than five lines. As regards its mode of growth, *S. nobilis* is exceedingly like a gigantic *Aulopora*, except that the branches are produced at comparatively longer intervals. Mr. Billings also states that the infundibuliform tabulæ are "so blended together as to produce a structure somewhat similar to the vesicular tissue of the genus *Cystiphyllum*." This singular species can always be recognised by the internal structure, mode of growth, and great size of the corallites.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne. Also, Lot 5, Concession 13, Walpole (Billings).

39. Syringopora Hisingeri (Billings).

Syringopora Hisingeri (Billings), *Canadian Journal*, New Series, Vol. IV., p. 116.

"This species forms large masses of very long, nearly parallel or slightly varying, slender corallites, which are closely aggregated, and present a rugged or knobby appearance from the great number of the connecting tubes. The diameter of the corallites is one-third of a line, or a little more. The tubes of connexion are distant from two-thirds of a line to one line and a half. The distance between the corallites is for the greater part less than their diameter. The young corallites branch from the sides of the adult individuals, and immediately become parallel with the parent, and connected with it again by the usual tubes of connexion." (Billings).

This elegant species is very readily recognized by the comparatively small size of the corallites, the closeness with which they are crowded together, and the great number of the connecting processes. It seems to me, however, somewhat questionable if this species is really distinct from the previously described *S. Verneuilli* of the Devonian Rocks of Ohio, (Milne Edwards and Haime, *Pol. Foss. des Terres Paléozoiques*, p. 289.) The distinction relied on by Mr. Billings in separating the two species is, that the corallites in *S. Hisingeri* are distant from one another for the most part by less than their own diameter; whereas in *S. Verneuilli* they are distant twice or thrice their diameter. If this distinction could be shown to hold good in a large number of examples of both forms, it would doubtless constitute a difference of specific value; but the distance between the corallites is not absolutely uniform in either, and it is therefore not improbable that the difference is one of variety only. In the meanwhile, however, it is safer to retain *S. Hisingeri* as a separate species, very easily distinguished from the other species of *Syringopora* which have been detected in the Corniferous Limestone of Canada.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne.

40. Syringopora perelegans (Billings).

Syringopora perelegans (Billings,) *Canadian Journal*, New Series, Vol. IV., p. 117, fig. 19.

Corallites averaging about one line in diameter, straight or slightly flexuous, distant from one another their own diameter or a little more, connecting tubes horizontal or slightly oblique, varying in their distance apart, but usually from two to four lines distant on the same side of any given corallite; surface obscurely or deeply annulated.

This species is very closely allied to *Syringopora reticulata* (Goldfuss), from the Carboniferous rocks of Europe, differing perhaps in nothing except that the connecting processes are not quite so closely set. It is also nearly related in many respects to *S. Maclurei* (Billings), it being very difficult to decide with regard to certain specimens to which of the two forms they should be rightly referred.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne, and very abundant at Lot 6, Con. 1, Wainfleet; also in the Corniferous Limestone of Woodstock (Billings).

41. Syringopora Maclurei (Billings).

Syringopora tubiporoides (Billings), *Can. Jour.*, New Series, Vol. IV., p. 115, fig. 17.
Syringopora Maclurei (Billings), Ibid. Vol. V., p. 258.

"This species is found in large masses of long slightly flexuous corallites. These have a diameter of about one line and a-half, and owing to their flexuosity, are at times in contact, and often two, three, or four lines apart. In large colonies which have grown luxuriantly without the interference of disturbing causes, the corallites are more regular than in the smaller or stunted groups, in which the corallites are much bent and confused. The connecting processes are very short and distant, and appear to be sometimes mere inosculations of the stems. The corallites, after growing separately for a short distance, approach each other and seem to grow together or adhere to each other for the space of a line and a-half, or more; they then diverge and again unite. These points of contact occur at distances varying from three lines to six, nine, or even twelve lines. Externally they exhibit numerous other indistinct annulations, and also faint indications of longitudinal striæ" (Billings).

The most striking character which would separate *S. Maclurei* from *S. perelegans* is the diameter of the corallites, stated in the above description as being one line and a-half in the former, whereas it is only a line in the latter. In a later paper (*Canadian Jour.*, New Series, Vol. v., p. 258) Mr. Billings, however, states that the width of the corallites in *S. Maclurei* is more generally only about a line, thus coming to agree in this character with *S. perelegans*. The surface-characters of the corallites in the two species are also the same. The chief distinctions, therefore, between the two forms are to be found in the fact, that the corallites of *S. Maclurei* are somewhat more robust on an average those of *S. perelegans*, that they are at the same time more flexuous and bent, that they are not placed at such uniform distances apart, and that the horizontal connecting processes are not by any means a marked feature, being delicate and separated by wide intervals, whilst the corallites often inosculate directly without the intervention of connecting processes at all. Many examples of *S. Maclurei* are undoubtedly distinct from all other described forms, and the species may be regarded as being in many repects a connecting link between such an aberrant type as *S. nobilis* and the typical forms like *S. perelegans*. Some specimens, however, occur which can with difficulty be certainly referred to either *S. Maclurei* or *S. perelegans*.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Ridgeway.

42. Syringopora laxata (Billings).

(Plate VI. Fig. 2.)

Syringopora laxata (Billings), *Canadian Journal*, New Series, Vol. IV. p. 118.

Corallites cylindrical, flexuous, sometimes geniculated, but not connected together by transverse processes. Epitheca with numerous encircling striæ and annulations. Diameter of the corallites from one and a half to two lines, the distance between them being very variable.

In the absence of connecting processes, the present singular species differs from all the typical examples of the genus, and it seems doubtful whether it can be retained in *Syringopora*

at all. The only traces of the connecting processes consist in occasional spiniform or tubercular projections of the epitheca, which do not, however, reach contiguous corallites. According to Mr. Billings, the distance between the corallites varies from three to eight lines; but in all the specimens I have seen, the distance is less than this. In fact, owing to the flexuous course taken by the corallites, and more especially to their being by no means strictly parallel, their distance apart is very variable; and they are very often in contact for considerable distances. In the absence of septa and in possessing infundibuliform tabulæ, the present form agrees with the normal examples of *Syringopora*.

Locality and Formation.—Rare in the Corniferous Limestone of Lot 6, Con. 1. Wainfleet. Also at Woodstock (Billings).

Genus AULOPORA (Goldfuss).

Corallum creeping, increasing by parietal gemmation; the corallites pyriform, trumpet shaped, or cylindrical, the cavity of each communicating with that of the one from which it springs. No tabulæ; septa absent, or represented in a rudimentary form by longitudinal striæ, or rows of minute spines.

The corals of the genus *Aulopora* have often the closest resemblance to young colonies of *Syringopora*, before the latter have commenced to throw up corallites vertically. There is thus reason to think that some of the described species of *Aulopora* may be truly of the nature of immature examples of *Syringopora*, though others appear to be undoubtedly mature and distinct.

Mr. Billings has described three species of this genus, all peculiar to Canada, from the Corniferous Limestone of Western Ontario, and all of these have come under my notice. I have also to record specimens which appear to be in every respect undistinguishable from *A. tubæformis* (Goldfuss).

43. AULOPORA FILIFORMIS (Billings).

Aulopora filiformis (Billings), *Canadian Journal*, New Series, Vol. IV. p. 119.

Corallum fixed, creeping, forming somewhat confused groups, which adhere parasitically to foreign bodies. Corallites about one-third of a line in diameter. Epitheca thick, with numerous fine encircling striæ. Corallites usually budded forth at intervals of from one-third of a line to a line, sometimes further apart, their length being from half a line to a line and a-half. Generally, the young corallites are produced in an alternating manner upon the two sides of the parent stem, but not uncommonly two, three, or four tubes may be produced at a single point, and any individual corallite may commence to throw out buds for itself. The tubes are often more or less bent, and their apertures are elevated above the surface upon which the coral grows.

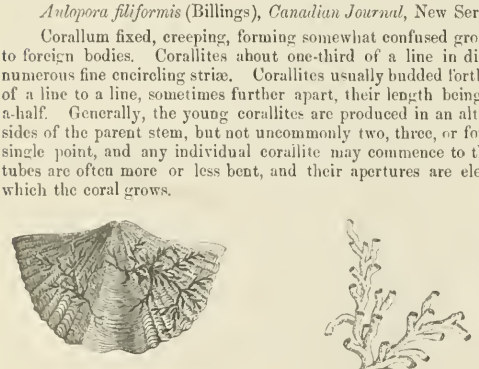


Fig. 11.

a. Aulopora filiformis (Billings), growing parasitically upon *Spirifera mucronata*. *b.* Portion of the same enlarged. Hamilton Formation, Arkona.

This beautiful little species is of common occurrence in the Hamilton formation, growing parasitically upon *Spirifera mucronata*, *Cyrtina Hamiltonensis*, *Heliophyllum Halli*, *Cystiphyllum vesiculosum*, the epitheca of species of *Favosites*, &c. It is readily distinguished from the other species of the genus by the small size of the tubes, and also by its peculiar mode of growth. It is allied to *Aulopora arachnoidea* (Hall) of the Trenton Limestone, but is a larger form, and occurs in more reticulating and compressed groups.

Locality and Formation.—Common in the Hamilton Formation of the Township of Bosanquet. Very rare in the Corniferous Limestone (Billings).*

* The fossil which I described under the name of *Alecto? Canadensis* (*Canadian Naturalist*, Vol. vii., No. 3), was founded upon casts obtained in the Corniferous Limestone. Having now obtained examples from the Hamilton group, in which the actual fossil itself is preserved, I am disposed to regard this singular form as a somewhat anomalous *Aulopora*. I shall, therefore, describe it in the Appendix to this Report, under the name of *Aulopora Canadensis*.

44. Aulopora cornuta (Billings).

Corallites tubular, trumpet-shaped, the diameter of their mouths being two lines, whilst hat of the parent stem is about one line. The corallites produced at intervals of from one to ix lines. The epitheca thick and apparently smooth, and destitute of encircling striæ.

I was at first disposed to doubt if this species were really distinct from *A. tubæformis* of oldfuss; but an examination of a considerable number of specimens has satisfied me that it s a good species. *A. cornuta* is distinguished from *A. tubæformis* by the fact that the coralites are less crowded, and the diameter of the calice often is nearly or quite twice as great. n *A. tubæformis* the tubes seem to have a diameter at their mouths of about a line, judging, hat is, from the figure of the species given by Goldfuss, who states no measurement. Some xamples of *A. cornuta* have the mouths of the tubes not more than one line and a-half, or ven less, across, and there thus remains the possibility that specimens may be obtained vhich will ultimately show *A. cornuta* to be only a large variety of *A. tubæformis*.

Locality and Formation.—Rare in the Corniferous Limestone, Lot 6, Con 1, Wainfleet, nd Port Colborne. Common in the Hamilton formation of the Township of Bosanquet, dhering to Brachiopods and Corals.

45. Aulopora tubæformis (Goldfuss).

(Plate VI. Fig. 3.)

Aulopora tubæformis (Goldfuss), *Petref. Germ.* Pl. xxix. Fig. 2.

Corallites tubular, more or less curved, expanding slightly towards the mouth. Diameter f the calice, one line or a little more or less; the diameter of the tube the same or a little less.

Whatever may be the value of *A. cornuta* as a distinct species, the Corniferous Limeone of Western Ontario unquestionably yields examples of an *Aulopora* which cannot be istinguished from the well-known species of the Devonian of Europe, *A. tubæformis* of Goldass. It is unfortunate that Goldfuss does not give any measurements; but accepting the ccuracy of his figure (Petrefakten, Pl. xxix fig. 2), the proportions and general form of our pecimens agree exactly with those of this species. I have not seen any specimens in which he corallites are as crowded as they are in the upper portion of Goldfuss' figure; but our pecimens agree exactly with the portions of the same colony which appear on the right and side and near the base of the figure in question; and, under any circumstances, the pproximation of the corallites is very liable to vary in different portions of a colony of *ulopora*. Upon the whole, therefore, I have no hesitation in identifying some of the examles from the Corniferous Limestone with the Eifel species.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne.

46. Aulopora umbellifera (Billings).

(Plate VI. Fig. 4.)

Aulopora umbellifera (Billings), *Canadian Journal*, New Series, Vol. iv. p. 119, fig. 21.

Corallum growing in a lax and spreading manner; the primary stems remaining univided for a distance of a quarter or half an inch, and then giving origin to a cluster of coralites in an umbellate manner, some of these proliferating in a similar fashion, and at similar ntervals. The number of corallites in a cluster varies from five or six to as many as ten or welve, and though united at their point of origin they ultimately radiate more or less outards like the spokes of a wheel. The epitheca is thick, with encircling striæ and annuons; the diameter of the corallites is about one line; and the septa are well represented by om six to ten rows of short spines.

This species is at once distinguished by its very peculiar mode of growth. As suggested y Mr. Billings, it seems questionable if it can be retained in the genus *Aulopora*, and it is uite probable that a new genus should be formed for its reception.

Locality and Formation.—Not very uncommon in the Corniferous Limestone of Port olborne. Also in Lot 6, Con. 1, Wainfleet (Billings).

Genus Favosites (Lamarck).

The genus *Favosites* (Lamarck), comprises branched or massive corals, composed of numerous more or less polygonal corallites, which are divided internally by transverse partitions "tabulæ," sometimes quite rudimentary. The walls of the corallites are perforated by one, two, three, or more rows of "mural pores," by which the separate corallites are placed in communication. The septa are absent or rudimentary, being at most represented by tubercles or short spines.

The generic limits of *Favosites* have not been universally agreed upon by palæontologists and the genera *Emmonsia*, (Edw. and H.), and *Astrocerium* (Hall), have been founded upon differences which Mr. Billings rightly regards as not of generic value. Thus, *Emmonsia* is distinguished from *Favosites* simply by the incompleteness of the tabulæ; but this same peculiarity can sometimes be observed even in *F. Gothlandica*, the type-species of *Favosites*, in individual examples of which not very uncommonly exhibit portions with the complete tabulæ of *Favosites* and other portions with the imperfect tabulæ of *Emmonsia*. In the same way, there are many examples of *Favosites*, of more than one species, in which the tabulæ, whether naturally or from some peculiarity in the manner in which they were preserved, are quite rudimentary and are even more imperfect than they are in ordinary specimens of *Favosites hemispherica*, upon which the genus *Emmonsia* was founded.

The genus *Astrocerium*, again, was founded by Hall (Pal. New York, Vol. 2, p. 120,) to include corals exceedingly like *Favosites* in all superficial characters, but differing in the possession of spiniform septa. It would appear, also, though this character is not specially mentioned, that Hall believed the corals which he referred to *Astrocerium* to be destitute of mural pores. This latter point, if it could be proved, would amply suffice to separate *Astrocerium* generically from *Favosites;* but there is much reason to think that the apparent absence of mural pores may be due to mineralisation merely. At any rate, it is far from uncommon to meet with examples of undoubted species of *Favosites* in which no pores can be detected. The other point—namely, the presence of spiniform septa—is also not a satisfactory distinction, partly because some examples of *Favosites* exhibit the same thing, and partly because some examples which would generally be referred to *Astrocerium* from their geological position and general appearance, are without any traces of septa. Upon the whole, therefore, it would appear that the genera *Astrocerium* and *Emmonsia* can not be retained.

The numerous species of *Favosites* may be divided into two groups, according as they are massive or ramose, *F. Gothlandica* being the type of the former, and *F. polymorpha* of the latter. The characters which have been relied on as separating the species of this genus are chiefly the following:—1. The diameter of the corallites; 2. The equality or inequality of size presented by the corallites; 3. The completeness or incompleteness of the tabulæ; 4. The number of rows of mural pores; 5. The position of the mural pores, whether on the flat faces of the polygonal corallites or on their angles; 6. The presence or absence of rudimentary septa. For convenience of reference the more important species of *Favosites* may be arranged as in the following table, it being remembered that some of the species here enumerated, are perhaps not valid, and the characters derived from the number of rows of mural pores are not *constant*, even in the limits of the same species:—

A. Massive Species.

a. Tabulæ complete. One row of mural pores, placed on the faces of the corallites.

1. *Favosites basaltica* (Gold).
2. *Favosites turbinata* (Billings).

b. Tabulæ complete. Two rows of mural pores, placed on the faces of the corallites.

3. *Favosites Gothlandica* (Lam).
4. *Favosites Niagarensis* (Hall).

c. Tabulæ complete. Three rows of mural pores, placed on the faces of the corallites.

5. *Favosites multipora* (Lonsd).
6. *Favosites Troosti* (Edwards and Haime).

d. Tabulæ complete. Mural pores situated in the angles formed by the prismatic walls of the corallites.

7. *Favosites alveolaris* (Gold).
8. *Favosites aspera* (D'Orb).

e. Tabulæ more or less incomplete. Mural pores in one, or more commonly in two rows.

9. *Favosites hemispherica* (Yandell and Shumard).
10. *Favosites Forbesi* (Edwards and Haime).

Ramose Species.

a. With one row of mural pores, on the faces of the corallites.

11. *Favosites polymorpha* (Gold).
12. *Favosites cervicornis* (De Blainville).
13. *Favosites reticulata* (De Blainville).

b. Withone row of pores, placed in the angles formed by the prismatic angles of the corallites.

14. *Favosites fibrosa* (Gold).

No less than ten species of *Favosites* have been recognized as occurring in the Devonian ocks of Canada, of which *Favosites Gothlandica, F. basaltica* (?) *F. Forbesi, F. hemispherica, polymorpha, F. cervicornis, F. reticulata,* and *F. dubia* are found in the same formation in irope ; whilst *F. turbinata* and *F. Chapmani* are as yet not known elsewhere.

47. Favosites Gothlandica (Lamarck).

Favosites Gothlandica (Lamarck), *Hist. des Anim. sans Vert.*, vol, ii, p. 206.
Calamopora Gothlandica (Goldfuss), *Petref. Germ.*, vol. i, p. 78, plate xxvi, figs. 3*a*, 3*b*, , and 3*c*.
Favosites basaltica (Hisinger), *Leth. Suec.*, p. 96, pl. xxvii, fig. 5. Not *F. basaltica* of oldfuss.
Favosites basaltica (Goldfuss), *Petref. Germ.*, pl. xxvi, figs. 4*c* and 4*d* (cæt. exclusis).
Favosites sub-basaltica (D'Orbigny), *Prodr. de Paléont.*, vol. i, p. 49.
Favosites Gothlandica (McCoy), *Brit. Pal. Foss.*, p. 20.
Favosites Goldfussi (D'Orbigny), *Prodr. de Paléont.*, vol. i, p. 107.
Favosites Goldfussi (Milne Edwards and Haime), *Pal. Foss. des Terr. Paléozoiques* 235, pl. xx, fig. 3 ; and British Fossil Corals, pl. xlvii. figs. 3-3c.
Favosites Gothlandica (Billings), *Canadian Journal*, New Series, vol. iv, p. 99, figs. 2, 3, 4.
Favosites Niagarensis (Hall), *Pal. N. Y.*, vol. ii, pl. xxxiv. A, Fig. 4.

(Many more references could be given, but the above are the most important).

The following is the diagnosis given by Mr. Billings of this cosmopolitan species in the per already referred to :—" Corallum forming spheroidal, pyriform, or large hemispheric flattened masses; corallites in general between one line and one and a half lines wide, metimes less or more, often two lines; transverse diaphragms usually complete, rarely in- mplete ; mural pores in one, two, or three series, usually two, those of the same series about lf a line distant, sometimes less ; pores surrounded by an elevated margin ; faces of the bes with one or two longitudinal striæ, more or less distinctly developed ; radiating septa presented by a series of small spines, often in the rudimentary form of tubercles."

The chief characters which may be relied upon as distinguishing typical examples of *avosites Gothlandica* (Lam.), are the following :—1. The corallites are of comparatively large ze, usually about one and a half lines in diameter, but varying from one to two lines. 2. he corallites are generally markedly polygonal, and are for the most part tolerably uniform their dimensions. 3. The mural pores are in two rows, placed alternately or sometimes ppositely on the faces of the corallites, and surrounded by elevated margins. 4. The tabulæ e complete, that is, extend from one side of the theca to the other. 5. Perfect examples e usually of a more or less hemispheric or pyriform shape, and have their lower surface veloped in a thicker or thinner concentrically wrinkled epitheca.

Whilst the above characters are generally found to co-exist in typical specimens of *F. othlandica*, there are, nevertheless, numerous departures from this state of things which ust be attended to in studying this protean species :—

The size of the corallites in some specimens not otherwise separable from *F. Gothlandica* sometimes uniformly below the average in an entire colony, not exceeding one line, or even little less than this. This might not seem an important difference, but, as noticed by r. Billings, it gives the coral an apparently very distinct general appearance.

The corallites, though usually distinctly polygonal, are sometimes nearly round, through- ut an entire colony; and their relative size in the same mass may vary to some extent.

Thus, it is not uncommon to meet with colonies, in which the great majority of the corallites have a diameter one and a half lines, whilst some few have a diameter of a line or a little less.

Whilst the mural pores are usually in two rows, there is sometimes but a single row, and sometimes three rows; and single colonies may be found to combine all these variations in different corallites. It is probable that the typical forms upon which Goldfuss founded his species *F. basaltica*, as believed by Lonsdale and McCoy, are truly referrible to specimens of *F. Gothlandica*, (Lam). in which but a single row of pores is present. *F. Goldfussi* Edwards and Haime, again seems unquestionably to be nothing more than a variety of *F. Gothlandica* as asserted by Mr. Billings, the only distinctive characters brought forward by its authors being the unreliable ones that the rows of pores vary from one to three, and that they are more closely approximated than in typical examples of the latter. Lastly, the elevated ring which is often found surrounding the pores in *F. Gothlandica*, is in many cases absent, single specimens often exhibiting both conditions. It may be added that the pores themselves, even in specimens otherwise well preserved, can by no means universally be detected.

The tabulæ are for the most part complete, extending from one side of the theca to the other; but this condition of parts is by no means constant. Specimens, otherwise well preserved, sometimes exhibit a complete absence of the tabulæ, the corallites being hollow. Others exhibit a condition of things similar to what occurs in *Favosites Forbesi*, though not so marked. The inner surfaces, namely, of the corallites, exhibit rudimentary and imperfect tabulæ, in the form of little projecting lamellæ or ridges which project into the cavity of the theca. Specimens exhibiting this peculiarity can usually be distinguished from examples of *F. Forbesi*, without difficulty, by the fact that the ridges representing the tabulæ are not so closely set, are more delicate and plate-like, usually run across the whole width of the corallite, and do not give to the interior of the theca the extraordinary roughness of appearance which is characteristic of *F. Forbesi*. In other specimens, again, the tabulæ have the characters which are distinctive of *F. hemispherica*, being closely set and incomplete, often more or less bent, and commonly interlocking. Such specimens, however, are readily separated from those which are rightly referred to *F. hemispherica*, by the fact that in the former some of the corallites are always found to exhibit the complete tabulæ of *F. Gothlandica*, whilst the size of the corallites is on the average much more considerable. In fact, the commonest condition in the specimens here alluded to, is that alternating portions of the mass exhibit the complete tabulæ characteristic of *F. Gothlandica*, and the incomplete tabulæ characteristic of *F. hemispherica*. Mr. Billings has also pointed out that the same corallite sometimes exhibits complete tabulæ in one portion of its course and incomplete tabulæ in another.

As to the condition of the septa, the diagnosis of the species would, perhaps, be altered for the better by the statement that as a general rule the septa are absent, or at any rate are indeterminable. They are, however, not uncommonly to be recognised in the form of small inequalities or minute tubercles on the interior of the walls of the corallites; and they sometimes exist in the condition of distinct spines, though I have never noticed this state of things in any of the specimens from the Corniferous Limestone. It is, however, not uncommon in Silurian specimens, and it has been observed and figured by Mr. Billings from Canadian examples found in the Corniferous.

Adult colonies of *F. Gothlandica* usually have the form of much depressed pyriform masses, but great variations exist in this respect; and young colonies are usually spheroidal or simply pyriform, whilst the largest and oldest masses tend to assume the form of dome-shaped or hemispheric masses. The colony is based upon a concentrically wrinkled epitheca, which is very commonly wanting in decorticated specimens, and attains a considerable thickness in aged examples.

Locality and Formation.—Common throughout the Corniferous Limestone in Canada West, and also in the Hamilton formation.

48. Favosites basaltica (Goldfuss).

Calamopora basaltica (Goldfuss), *Petref. Germ.* Pl. XXVI. Figs. 4*a*, 4*d*.
Favosites basaltica; (Billings), *Canadian Journal*, New Series, Vol. IV. p. 106, (in part).

It is with regard to this species that I find myself compelled, though with great diffidence, to differ from the conclusions arrived at by Mr. Billings (*Canadian Jour.* Vol. IV. p.

106), more widely than as concerns any other form described by him. Having, however, had the opportunity of examining a very extensive series of specimens, I cannot at present accept his views with regard to the limits of this species. It seems pretty certain, to begin with, that the forms included by Goldfuss (*Petref.* Pl. XXVI. Figs. 4*a*—*d*) under the name of *F. basaltica* differ from one another in their characters to such an extent that they would usually be (as they actually have been) separated into two distinct species. On the one hand, making the existence of a single row of mural pores the distinguishing character of the species, Goldfuss includes under this head forms which differ only in this character from *F. Gothlandica*; and on the other hand he associates with these forms which differ very widely from *F. Gothlandica* in most of their characters, but which are believed to agree with the preceding in the above mentioned feature. We may, therefore, consider that *F. basaltica* of Goldfuss was made originally to include the following two groups of specimens:

1. Specimens agreeing with *F. Gothlandica* (Lam.), in possessing prismatic corallites, the size of which is upon the whole generally uniform, but which differ from *F. Gothlandica* in possessing but a single row of mural pores. (*Petref.* Pl. XXVI., Figs. 4*c*, 4*d*).

2. Specimens which agree with the preceding in having sometimes (not always) a single row of pores, but which differ in having nearly rounded or cylindrical corallites, the sizes of which are exceedingly unequal; whilst the place of complete tabulæ is taken by numerous short projecting lamellæ, which impart a peculiar and characteristic appearance to the inner surface of the corallites. (*Petref.* Pl. XXVI., Figs. 4*a*, 4*b*).

Now, it is the first of these groups of specimens that palæontologists have generally agreed in regarding as the type-form of *F. basaltica* (Gold.); and the chief difference of opinion has simply concerned the question whether these forms are separable from *F. Gothlandica* (Lam.), or not. Some authorities, such as McCoy & Lonsdale, maintain, apparently with good reason, that these forms are truly referrible to *F. Gothlandica*; whilst others, such as Milne Edwards and Haime, retain these forms under a separate species under the name of *F. basaltica*. Whichever of these views may be ultimately adopted, I, at any rate, have seen no specimens from the Corniferous Limestone of Western Ontario which appear to me to be truly referrible to the type here alluded to. We do meet, certainly, with specimens exhibiting prismatic basaltiform tubes, in every respect resembling *F. Gothlandica*, except that the corallites are on the average a little smaller, and they exhibit but a single row of mural pores. These specimens I was at first sight disposed to set down as belonging to *F. basaltica*, and I have seen them so named by others. I have, however, succeeded in fully satisfying myself that the specimens in question are truly decorticated examples of *F. turbinata* (Billings), in which there is also but a single row of pores. Examples of this species can be found with the characteristic epitheca in all stages and at all degrees of removal; and when it has entirely disappeared, all the characters of this first section of *F. basaltica* (Gold.), are assumed, the only distinguishing mark, perhaps, being that the walls of the corallites have the comparatively great thickness which is characteristic of *F. turbinata*. It need only be added in this connection, that unmistakable examples of *F. Gothlandica* not uncommonly exhibit, as has been often noticed by other observers, the single rows of pores which Goldfuss believed to be characteristic of *F. basaltica*; though I am not aware that any colony of *F. Gothlandica* has ever been observed in which *all* the corallites possessed but one row of mural pores.

We have now to consider the other group of specimens included by Goldfuss under the head of *F. basaltica*, namely, those in which the corallites are more or less circular or cylindrical in shape, and are very unequal in size, whilst they possess other peculiarities as well. These specimens were separated from *F. basaltica* by Milne Edwards & Haime, under the name of *Favosites Forbesi*; but they were subsequently re-united with the preceding group of forms by Mr. Billings, the name *basaltica* being retained for the combined groups. My own opinion, as I have already said, is that the colonies with small, nearly uniformly-sized, prismatic and uniporous corallites (as occuring in the Corniferous Limestone) are referable to decorticated examples of *F. turbinata* (Billings). I, therefore, am at present disposed to believe that *Favosites Forbesi* (Edw. & Haime), is a good species, clearly separable from the type-form of *F. basaltica*, as generally accepted (though including part of *F. basaltica* of Goldfuss); and I shall describe under this name the second group of specimens to which I have drawn attention.

49. Favosites Forbesi (Edw. & Haime).

(Plate VII. Fig. 8 and Pl. VIII. Fig. 4.)

Calamopora basaltica (Goldfuss), *Petref. Germ.* Pl. xxvi. Figs. 4 *a* and 4 *b*.
Favosites Forbesi (Milne Edwards and Haime), *Pol. Foss des Terr. Paléoziques*, p. 238.
Favosites basaltica (Billings), *Canadian Journal*, New Series, Vol. iv. p. 106. (In part.)

Corallum forming spheroidal, pyriform, cylindroidal, or depressed hemispheric masses, composed of corallites which are generally circular or cylindrical in shape, and which are usually of very unequal sizes; mural pores usually in two alternating rows, rarely in a single row; tabulæ mostly rudimentary, and represented by very close-set projecting lamellæ, which roughen the interior of the corallites; radiating septa represented, sometimes clearly, sometimes indistinctly, by a number of longitudinal ridges or striæ.

The typical examples of this species are usually spheroidal, cylindroidal, or club-shaped, and possess almost perfectly cylindrical corallites. The corallites are large and small, each larger one being surrounded by a ring of smaller. The larger corallites are uniformly about a line and a half or a line and three quarters in diameter; but the smaller corallites vary considerably in size, from an eighth of a line up to about a line. The mural pores often cannot be made out, but in all the specimens I have seen there are constantly two rows of pores on the larger corallites, thus differing materially from *F. basaltica* (Gold.). Mr. Billings, however, states that the smaller tubes possess but a single row of mural pores. The condition of the tabulæ is exceedingly peculiar, and I do not think it can be due, as suggested by Mr. Billings, to the manner in which fossilisation was effected; since it is constantly present in all our Canadian examples of this species, whilst these occur side by side with examples of *F. Gothlandica* in which the tabulæ are complete. Exactly the same condition of the tabulae is shown also in one of the figures of *F. Forbesi* given by Milne Edwards and Haime, and drawn from a specimen from the Upper Silurian Rocks of England. (Brit. Fossil Corals. Pl. 60. fig. 2. f). The tabulæ, namely, are present in an incomplete and rudimentary form, being represented by numerous close-set lamellæ, ridges, or short spines, which project a short way into the interior of the corallite, giving it a most peculiar and easily recognised appearance. The most perfectly preserved specimen in my possession, in which the tubes are filled up, instead of being as usual hollow, exhibits tabulae which are slightly more developed than those just described, approximating closely to what is observable in *F. hemispherica*. The tabulæ, namely, in this specimen are close-set, thin, flexuous lamellæ, which for the most part extend about half-way across the corallite, often bifurcating or interlocking at their free ends; but which, in some instances, actually become complete, and pass right across the corallite. The radiating septa are quite rudimentary, and, when discernible at all, have the form of obscurely-marked longitudinal striæ. Lastly, I have observed in several specimens, especially in those of a cylindroidal or clavate form, the peculiar feature that the calices of a greater or smaller moiety of the colony are closed by an epitheca, closely resembling what is observed in *F. turbinata* (Billings).

Mr. Billings has shown that small specimens, having the characters above mentioned, pass by a perfect transition into much larger pyriform specimens, which present the peculiarity that the corallites at the base of the mass are large and unequal in size, whilst those at the summit are on the average smaller, and are nearly equal in size. The same eminent palæontologist has also pointed out that the younger pyriform colonies also pass, by an equally perfect transition into elongated cylindrical forms, often of considerable length. Both these statements I am enabled to confirm from my own observation.

Besides the typical examples of *F. Forbesi* which I have just described, there occur not uncommonly others which I cannot at present separate from this species, though they present several more or less well marked peculiarities. The corallum in the examples in question resembles in shape the more ordinary individuals of *F. Gothlandica*, being circular and flattened above, and springing from a pointed and attenuated base, which was doubtless enclosed in an epitheca. The corallites are not distinctly circular, but are cylindroidal or sub-prismatic, and they are nearly equal in size, having an average width of one line. Interspersed, however, with the ordinary corallites are some smaller ones having a diameter of half a line or a little less. The mural pores appear to form a double series. The radiating septa are well marked

and form a series of about twelve strong ridges which run longitudinally in the interior of the corallites. These septal ridges are crossed by rudimentary tabulæ in the form of short spine-like lamellæ, about three or four in the space of a line, and not placed on the same level in contiguous ridges. It is possible that these forms are specifically distinct from those which I have here referred to, *F. Forbesi*; but I do not feel that it is safe to separate them at present.

Locality and Formation.—Corniferous Limestone, Port Colborne, and Lot 6, Concession 1, Wainfleet.

50. Favosites hemispherica (Yandell and Shumard).

(Plate VIII. Fig. 3.)

Favosites hemispherica (Yandell and Shumard), Contrib. to Geol. of Kentucky, p. 7.

Alveolites hemispherica (D'Orbigny), Prodr. de Paléont. Vol. I., p. 49.

Emmonsia hemispherica (Milne Edwards and Jules Haime), Pol. Foss. des Terr. Paléoz. p. 247; and Brit. Fossil Corals. Plate XLVIII., figs. 4, 4*a*.

Favosites hemispherica (Billings) Canadian Journal, New Series, Vol. IV., p. 105, figs. 5, 6, 7.

In its essential characters this species is very closely allied to *F. Gothlandica*. Externally, however, it may in general be distinguished from the latter by the much smaller size of the corallites, which are usually only from one twenty-fourth to one twentieth of an inch in diameter, though they sometimes reach one line. Internally, the species is distinguished by the fact that the tabulæ are incomplete, very thin and closely set, usually extending only about half way across the corallite, and often interlocked towards its centre. Some of the tabulæ, however, are usually complete. The mural pores are stated to be in one, two, or three rows, (Milne Edwards and Haime, and Billings) but I have not succeeded in detecting their arrangement in any of the Canadian examples which have come under my own notice. According to Milne Edwards and Haime, also, there are twelve well developed septa, but these are indeterminable in the Canadian specimens. This species may possibly turn out, as suggested by Mr. Billings, to be identical with *F. Gothlandica*, but its distinctive characters can usually be recognised with such ease as to justify placing it under a separate specific title. There can be no hesitation, however, in following Mr. Billings in his refusal to adopt the genus *Emmonsia*, proposed by Edwards and Haime to receive this species, and founded simply upon the incomplete condition of the tabulæ.

Locality and Formation.—Common in the Corniferous Limestone of Ridgeway, Port Colborne, and many other localities in Western Ontario. Also, in the Hamilton Formation of Bosanquet.

51. Favosites turbinata (Billings).

(Plate VIII. Figs. 1 and 2.)

Favosites turbinata (Billings), Canadian Journal, New Series, Vol. IV., p. 109 and Vol. V., p. 258, fig. 7.

"Corallum forming elongate turbinate masses, sometimes two feet in length and six inches in diameter, often curved at the base. Corallites nearly of an uniform size, usually somewhat less than a line in width; transverse diaphragms thin, flat, flexuous, complete or incomplete. Only one row of pores has been observed. Whole surface except the upper part covered with a strong epitheca which closes the mouths of the cells." (Billings).

There can be no question as to the specific distinctness of this most remarkable species, the most singular representative of the genus. The form of the colony varies much, but is in typical specimens that of a straight or curved cone, which varies in length from less than one inch up to two feet. Other examples are more or less cylindrical, either straight like Orthoceratites, or more commonly curved or twisted, and of irregular diameter. Other specimens, again are irregular curved masses, which look like large potatoes.

In perfectly preserved specimens, the whole of the colony, except the upper surface, is covered by a thinner or thicker epitheca, which seals up the calices of the corallites. The summit of the colony is usually somewhat cup-shaped (though this may not be a natural appearance); and it is only here that the corallites are open. In most specimens, the epitheca

is smooth, and is sufficiently thin to allow of the walls of the corallites to be distinctly traced through it. In such cases, the mouth or calice of the corallites appears to be closed with a kind of disc, which is sometimes level with the general surface, often depressed slightly below it, and sometimes elevated in the form of a rounded boss.

In a very large number of specimens, the epitheca has been more or less denuded over parts where it originally existed. In such cases, it is mostly only the epitheca which has been removed, and the corallites are left intact and uninjured, with their calices quite empty. In other cases, the epitheca has been entirely decorticated, whilst the corallites may remain uninjured, or may be more or less broken away towards their outer ends. Such specimens can in general be readily recognized by the general shape of the colony and the peculiar characters of the corallites. In other cases, lastly, the epitheca is sufficiently thick to render the calices of the corallites below, obscure or invisible. In these instances, concentric lines of growth are usually exhibited by the epitheca, and these are sometimes developed into such strong and irregular annulations as to simulate pretty closely the appearance of perfect specimens of *Clisiophyllum Oneidaense* (Billings).

The corallites radiate from the imaginary axis of the colony, either in straight lines or curves; and the size of the mass in the turbinate specimens increases rapidly by the interstitial addition of fresh corallites. In shape the corallites are rounded, sub-prismatic, or, more commonly, distinctly prismatic. In size they are by no means uniform, there being generally a considerable number of under-sized corallites intercalated amongst the nearly equal-sized larger tubes. The larger corallites have most commonly a diameter of from a line to a tenth of an inch, whilst the smaller ones may be half a line or less in width.

The tabulæ are commonly complete, sometimes incomplete, and are about three or four in the space of a line.

The mural pores, so far as I have observed, are uniformly in single rows, placed on the flat surfaces of the corallites, not surrounded by an elevated border, and of comparatively large size. Their distance apart is most commonly about half a line, but is sometimes as much as a line.

The walls of the corallites are of unusual thickness, in the great majority of cases; and they are not undistinguishably fused with those of contiguous corallites. Hence the lines of division between the walls of neighbouring tubes can be plainly seen in parts from which the epitheca has been removed, or even through the epitheca when the latter is of no great thickness.

Completely decorticated specimens might very readily be referred to one of the two groups of forms usually placed in *F. basaltica* (Gold.); the group, namely, comprising forms with prismatic corallites of small size, with but a single row of cells. Specimens, again, exhibiting longitudinal sections, but not exhibiting the outer surface, would also, almost certainly, be referred to *F. basaltica*. In the former case, the thickness of the walls of the corallites, and their being generally quite distinct and not fused with one another, would usually suffice for their determination. In the latter case, a positive determination would probably be impossible, unless some portion of the outer surface could be observed.

Locality and Formation.—Common in the Corniferous Limestone of Ridgeway, Port Colborne, and other localities in Western Ontario. Also in the Hamilton Formation of the Township of Bosanquet.

Favosites polymorpha (Goldfuss).

(Plate VII. Fig. 7.)

Calamopora polymorpha (Goldfuss), *Petref. Germ.* Plate XXVII. figs. 2*b*, 2*c*. 2*d*, 3*b*, 3*c* cæt. exclusis).

Corallum sub-massive or dendroid, often dichotomously branched, or reticulated; diameter of branches varying from a little over a line to more than an inch. Corallites radiating in all directions from an imaginary axis, nearly at right angles or obliquely, more or less contracted internally and widening as they approach the surface. Diameter of corallites from half to three-quarters of a line in branches of half an inch across, often with smaller ones intercalated. Calices in reality more or less polygonal, but often rendered circular by the thickening of their walls. Mural pores in single series.

The above would stand as a general definition for a number of branching species of *Favosites*, which some eminent palæontologists, such as Lonsdale, McCoy and Billings, regard as belonging to a single natural group; whilst other high authorities as De Blainville, and Milne Edwards and Haime, distribute them amongst several species. My own view would coincide with the former of these—namely, that the forms in question should be regarded as belonging to a single very variable specific type, the *Favosites polymorpha* of Goldfuss. As this view, however, has not been universally accepted by the leading authorities on the subject, I shall describe the branching forms of *Favosites* which occur in the Corniferous Limestone of Western Ontario, under the names of *F. polymorpha*, *F. reticulata*, *F. dubia*, and *F. cervicornis*. To these I have to add an allied but apparently distinct and undescribed form, which I shall designate by the name of *F. Chapmani*, and which appears to be in some respects intermediate between the genera *Favosites* and *Alveolites*.

Taking this view of the subject, *Favosites polymorpha* proper will be restricted to such forms as are more or less massive or lobate, thus constituting a transition between the truly massive species and the regularly dendroid types such as *F. reticulata* and *F. dubia*. The calices are polygonal, of unequal sizes, there being small ones intercalated amongst the larger. The diameter of the larger calices is generally about two-thirds of a line; and their walls are not particularly thick.

As thus restricted, *F. polymorpha* can not be said to be of common occurrence in the Corniferous Limestone of Western Canada; and I have met with comparatively few specimens which would conform with the figures given by Goldfuss in his great work. (*Petrefacten*, Plate XXVII. Figs. 2*b*, 2*c*, 2*d*, 3*b* and 3*c*.) This is the more singular, as the regularly branched forms which constitute *F. reticulata* and *F. dubia*, are of exceeding common occurrence.

Locality and Formation.—Corniferous Limestone of Port Colborne and Ridgeway.

53. Favosites reticulata (De Blainville).

(Plate VII. Fig. 2).

Calamopora spongites (var. *ramosa*) (Goldfuss), *Petref. Germ.* Plate XXVIII. Figs. 2*a*—2*g*, (cæt. exclusis).

Alveolites reticulata (De Blainville), *Dict.* Vol. LX. p. 369.

Favosites Orbignyana (De Verneuil and Jules Haime), *Bull. Soc. Géol. de France*, 2nd series. Vol. VII. p. 162.

Favosites reticulata (Milne Edwards and Jules Haime), *Pol. Foss des Terr. Paléoz.* p. 241.; and *Brit. Foss. Corals*, p. 215, Plate XLVIII. Fig. 1, 1*b*.

Corallum dendroid, branched, the branches inosculating and reticulated in most instances, diameter of the branches a line and a half to two lines, calices nearly equal, circular or nearly so, with very thick walls, their diameter about half a line or a little less (counting in the thickness of the wall).

This form is distinguished by its branched and usually reticulate form, and its equal or sub-equal calices, which open on the surface with hardly any obliquity.

Locality and Formation.—Abundant in the Corniferous Limestone of Port Colborne and Ridgeway.

54. Favosites dubia (De Blainville).

Plate VII, Fig. 5.

Calamopora polymorpha (var. *gracilis*) (Goldfuss), *Petref. Germ.* Plate XXVII, fig. 5.

Alveolites dubia (De Blainville), *Dict.* Vol. LX, p. 370.

Favosites dubia (Edwards and Haime), *Pol. Foss. des Terr. Paléoz.*, p. 243,; and *Brit. Foss. Corals*, p. 216.

This species is very closely allied to *F. reticulata*, from which it is unsatisfactorily distinguished by the fact that the branches do not coalesce and inosculate, and by the inequality in the size of the corallites, a few very small calices being intercalated amongst

the larger ones. The diameter of the larger calices is from half a line to two thirds of a line. The calices are more or less rounded, and their walls thick. The diameter of the branches is mostly from three to four lines.

In some specimens, in place of there being a few minute corallites interspersed amongst a great number of larger-sized ones, the corallites are only moderately unequal, and the number of small ones is about equal to that of the large ones.

A considerable number of examples, again, occur, which do not appear to be separable from the preceding, but in which the dimensions are decidedly smaller, the branches being only from one and a half lines to two lines in diameter, and the width of the calices being from one third of a line to half a line.

Locality and Formation.—Abundant in the Corniferous Limestone of Port Colborne and Ridgeway.

55. Favosites cervicornis (De Blainville).

Calamopora polymorpha (var. *ramoso-divaricata*) (Goldfuss), *Petref. Germ.*, Pl. XXVII, figs. 3*a*, 4*a*, 4*b*, 4*c* (cæt exclusis).

Alveolites cervicornis (De Blainville), *Dict.*, Vol. LX, p. 369.

Favosites cervicornis (Milne Edwards and Haime), *Pol Foss. des Terr. Paléoz.*, p. 243; and *Brit Foss. Corals*, p. 216, Pl. XLVIII, fig, 2.

Favosites polymorpha (McCoy), *Brit Pal. Foss.*, p. 68.

Favosites cervicornis (Billings), *Canadian Journal*, New Series, Vol. IV, p. 110, fig. 9.

Corallum forming lobate or branched masses, the divisions of which are usually thick, blunt and irregular. The corallites oblique to the axis of the branches, unequal in point of size, with thin walls. The calices unequally sized, rounded or polygonal, about a line in diameter, sometimes less.

F. cervicornis differs from *F. polymorpha* in its more branched and antler-like form, the much greater obliquity of the corallites, and the thinner walls of the calices; but it is questionable if there exists any difference of specific value. Mr. Billings mentions that he has specimens which agree well with those figured by Goldfuss (*Petrefacten*, Pl. XXVII, figs. 3*a*, 4*a*, 4*b*, 4*c*); and I have also several examples which appear to belong to the same form. The *Favosites cristata* of Edwards and Haime appears to be founded upon examples of *F. cervicornis*, in which the calices are somewhat below the average in width.

Locality and Formation.—Rare in the Corniferous Limestone of Lot 6, Con. 1, Wainfleet, Ridgeway, and Port Colborne.

56. Favosites Chapmani (Nicholson).

(Plate VII, Fig. 6.)

Corallum branching, apparently not reticulated, the diameter of the branches being from two to four lines. Corallites exceedingly oblique, forming a very acute angle with the axis of the branch, slightly unequal in point of size. Calices rounded or transversely oval, very oblique, but not triangular when perfect. The internal wall of the corallite is prolonged along the next corallite above, whilst the external or lower wall is truncated; so that whilst the corallite is oblique in its course, the opening of the calice is parallel with the surface. The diameter of the calices varies from half a line to one line. The wall is comparatively thin.

This species is distinguished from all others known to me by the extremely small angle which the corallites make with the axis of the branch, and by the extraordinary obliquity of the calice. In this last respect *F. Chapmani* makes a near approach to the genus *Alveolites*, but the aperture of the calice is not triangular, unless worn down, the walls of the corallites are quite thin, and there are no traces of septal teeth. The species to which *F. Chapmani* approaches most closely is *F. cervicornis* (De Blainville). Our form, however, is ramose and composed of cylindrical branches, instead of being lobate and divided into obtuse finger-like processes; whilst the aperture of the calice is considerably more oblique. Indeed, *F. Chapmani* not only resembles *Alveolites* in the obliquity of the calice, but also in the fact (as regards the more typical members of the latter genus) that the exterior wall of each

corallite is free for a certain space, and is not overlapped by the corallite below, whereas in *Favosites* the walls of the corallites are contiguous throughout, and are nowhere free. I have dedicated the species to my distinguished colleague, Professor E. J. Chapman.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne, and Lot 6, Con. 1, Wainfleet.

Genus Alveolites (Lamarck).

Corallum dendroid, massive, or encrusting; composed of short, prismatic or cylindrical corallites, with inseparably united walls, often arranged in superimposed concentric layers. Tabulæ complete. Mural pores few in number. Calices oblique to the surface, sub-triangular or crescentic, the lower lip most prominent. Septa absent, or represented by from one to three vertical toothlike projections.

The genus *Alveolites* is very nearly allied to *Favosites*, but is distinguished by the much greater shortness of the corallites, the common presence of one or more toothlike ridges representing the septa, and the oblique calice with its sub-triangular, crescentic, or semi-circular aperture and prominent lower lip. In the obliquity of the calice, however, *Favosites Chapmani* closely approaches *Alveolites*. From *Chætetes* and *Stenopora*, again, the genus *Alveolites* is distinguished by the possession of mural pores, and, as a general rule, by the much greater thickness of the walls of the corallites. As in the genus *Favosites* the species of *Alveolites* may be divided into massive and ramose forms; but some of the former are truly encrusting, and simply become massive by the superposition with advancing age of successive concentric layers of corallites.

Mr. Billings records two species of *Alveolites* as occuring in the Corniferous Limestone of Western Ontario, and four species from the Hamilton formation of the same region. All of these except *A. squamosa*, have come under my notice, and two of the Hamilton species (viz. *A. Rœmeri*, and *A. Fischeri*,) I have also detected in the Corniferous. I have likewise to add five species from the Corniferous Limestone, which appear to be altogether new, together with a single undescribed form from the Hamilton group.

57. Alveolites labiosa (Billings).

Alveolites labiosa (Billings), *Canadian Journal*, New Series, Vol. IV. p.114, Figs. 14, 15.

Corallum ramose, or sometimes sub-palmate, the stems cylindrical or sub-cylindrical, branching at intervals of from a quarter of an inch to half an inch, generally at angles of from 60° to 70°, but not anastomosing or forming network Diameter of the stems from a little over a line to two lines. Corallites oblique, oval or sub-triangular, with a projecting lower lip. Calices transversely oval, or triangular when worn, with the apex of the triangle directed downwards. Calices distant from one another from a third to half a line measured vertically, and from a fourth of a line to a third of a line measured diagonally or transversely. Longest diameter of the calices, when unworn, about a fourth or a fifth of a line.

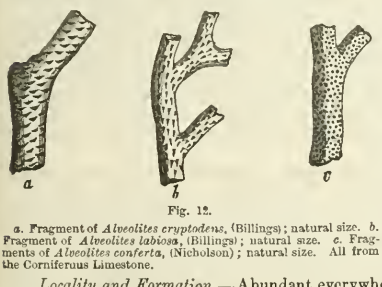


Fig. 12.

a. Fragment of *Alveolites cryptodens*, (Billings); natural size. b. Fragment of *Alveolites labiosa*, (Billings); natural size. c. Fragments of *Alveolites conferta*, (Nicholson); natural size. All from the Corniferous Limestone.

Sections of this species present a close resemblesto *Alveolites vermicularis* (McCoy), (*see* Milne Edwards and Haime, British Fossil Corals, Plate 48, Fig. 5), but the branching takes place at more acute angles in the present form, no interlacing of the stems seems to occur, and the corallites, though somewhat curved, are not flexuous. In one specimen which may perhaps be a variety of *A. labiosa*, the interior of each corallite exhibits on the upper wall, on one side, a single strong septal ridge, dividing the calice vertically into two communicating compartments.

Locality and Formation.—Abundant everywhere in the Corniferous limestone of Western Ontario.

58. Alveolites Rœmeri (Billings).

Alveolites Rœmeri (Billings), *Canadian Journal*, New Series, Vol. v., p. 255.

Corallum ramose, of cylindrical, sometimes sub-palmate, branched stems, from one and a half to three lines in diameter. Calices transversely oval, about half a line in width, and one fourth of a line in length, usually distant from one another about half a line measured in the longitudinal direction of the stem, and one fourth of a line in the transverse direction.

In some examples, as noticed by Mr. Billings, the calices are more closely set than as above stated, but this point is certainly not of specific value. The only two forms with which *A. Rœmeri* could easily be confounded, are *A. labiosa* (Billings), and *A. cryptodens* (Billings). From the former of these it is distinguished by the transversely-elongated oval form of the calices, and their comparatively great width, the cells of *A. labiosa* being markedly triangular and not having a width of more than a quarter of a line. In *A. cryptodens*, on the other hand, the calices are more of a triangular shape than in *A. Rœmeri*, and they are much more distant and remote. Mr. Billings describes *A. Rœmeri* from specimens obtained in the Hamilton formation, but examples also occur not very rarely in the Corniferous Limestone.

Locality and Formation.—Corniferous Limestone of Port Colborne. Abundant in the Hamilton group at Bartlett's Mills, near Arkona, Township of Bosanquet.

59. Alveolites cryptodens (Billings).

Alveolites cryptodens (Billings), *Canadian Journal*, New Series, Vol. IV., p. 115, fig. 16.

Corallum dendroid, the branches cylindrical, or sub-cylindrical, from two to three lines in diameter, not inosculating or forming a network. Corallites oblique, the calices transversely oval, or sub-triangular, arranged in spiral or sub-spiral lines. The calices possess prominent lower lips, and usually open in an obliquely and not directly transverse direction as regards the axis of the branch. The long diameter of the calices is about half a line. Calices distant less than a line measured either transversely or diagonally, and about a line measured vertically. "Two small tooth like ridges occupy the inner surface on the side towards the exterior, apparently half a line from the mouth or lower lip of the cell" (Billings).

The characteristic tooth-like septal ridges of this species are only rarely preserved, and I have never seen them; but specimens with the proportions mentioned by Mr. Billings are by no means very uncommon. Apart from this character, the species (Fig. 12, *a*,) is readily distinguished by the ramose but not reticulated corallum, the large size and obliquity of the transversely oval calices, and their comparative remoteness from one another.

Locality and Formation.—Corniferous Limestone of Port Colborne and Ridgeway.

60. Alveolites conferta (Nicholson).

Alveolites conferta (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum ramose, composed of cylindrical or elliptical branching stems, which bifurcate, but do not interlace. Diameter of the stems from two to three lines. Corallites minute, oblique to the surface, opening by calices which are arranged in irregular diagonal lines, and have a circular, or transversely oval, hardly sub-triangular shape. Calices oblique, minute, and excessively crowded, about one-sixth to one-eighth of a line in their longest diameter, and separated by intervals of from one-fifth to one-fourth of a line transversely, or the same distance, or less, measured vertically. There are, thus, from three to four calices, and from two to three interspaces in the space of one line, measured either diagonally across a branch or vertically (Fig. 12, *c*).

This species is allied to the preceding in its general configuration, but it appears to be decidedly distinct from these or from any previously described forms. It is distinguished by its very minute and extremely close-set corallites, and by the fact that the calices are, as a rule, not distinctly sub-triangular, and have not a markedly prominent lower lip. In some respects, *A. conferta* has the aspect of a *Cœnites*, especially in the fact that the corallites appear at first sight, to be surrounded by a copious cœnenchyma. This appearance, however, is deceptive, and I have no doubt as to the correct reference of the species to *Alveolites*.

Locality and Formation.—Rare in the Corniferous Limestone of Ridgeway and Port Colborne.

61. Alveolites (cœnites?) distans (Nicholson).

Alveolites (*Cœnites?*) *distans*, (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum ramose, the branches cylindrical, of a diameter of from a line and a half to two lines, dividing dichotomously at intervals of about half an inch, but not anastomosing. Corallites oblique to the surface, with exceedingly thick walls. Calices exceedingly minute, about one-eighth of a line in their longest diameter, sub-circular, transversely oval, or sub-triangular, level with the surface, and having the lower lip hardly or not at all prominent. Intervals between the calices proportionately very wide—about half a line. (Fig. 13.)

Fig. 13. Fragment of *Alveolites distans* (Nicholson), natural size, *a* Portion of the same enlarged. Corniferous.

At first sight, this remarkable species has very much the appearance of a *Cœnites* (such as *C. intertextus*) or of the uncertain form *Alveolites* (*?*) *seriatoporoides* (Edw. and H.) It is, however, distinguished from the former by the not prominent and not markedly triangular calices, and from the latter (which is almost certainly not an *Alveolites*) by the fact that the corallites are arranged obliquely to the surface.

Alveolites distans is readily distinguished from the other ramose forms of the genus by the exceedingly small size of the calices, and the proportionately great width of the intervals between them, and by the fact that the calices are level with the general surface, or nearly so. There is thus produced the fallacious appearance that the corallites are imbedded in an abundant cœnenchyma.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

62. Alveolites ramulosa (Nicholson).

(Plate VII. Fig. 3.)

Alveolites ramulosa (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum reticulated, composed of flattened sub-cylindrical or cylindrical stems from two-thirds of a line to one and a half lines in diameter, branching with great frequency, and interlacing to form a close network, the meshes of which vary from one to two lines in diameter. Corallites very minute, about three in the space of a line measured diagonally, the calices very small, oval or triangular, separated by intervals of rather more than a third of a line, and about a sixth to an eighth of a line in their longest diameter (Fig. 14, *a* and *b*).

This species represents in the genus *Alveolites*, the anastomosing *F. reticulata* in the genus *Favosites*. It is distinguished from *A. labiosa*, with which it is structurally most closely allied, not only by the reticulated form of the corallum, but also by the much more minute corallites. It differs from *A. conferta* in forming a network, in the corallites being more remote, and in the fact that the calices are distinctly sub-triangular or even triangular, as a general rule.

Locality and Formation.—Not very uncommon in the Corniferous Limestone of Port Colborne, and Lot 6, Con. 1. Wainfleet.

63. Alveolites Billingsi (Nicholson).

(Plate VII. Fig. 1.)

Alveolites Billingsi, (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum reticulated, composed of cylindrical or sub-cylindrical stems, from two to three lines in diameter, which branch dichotomously, for the most part at angles of about 40°, and anastomose to form an open network, the meshes of which are oval or diamond-shaped, and vary in length from three lines to three quarters of an inch. As in the preceding species, the network is not always in a single plane, and the branches often coalesce at the nodes of the

network to form flattened sub-palmate expansions. Corallites small, crowded, with thin walls; the calices sub-triangular, or, when worn, markedly triangular, with the point of the triangle directed downwards; about three in the space of one line measured either diagonally or vertically. The long diameter of the calices is about one-fourth of a line, and the interspaces between them are about half as much. (Fig. 14, *b*.)

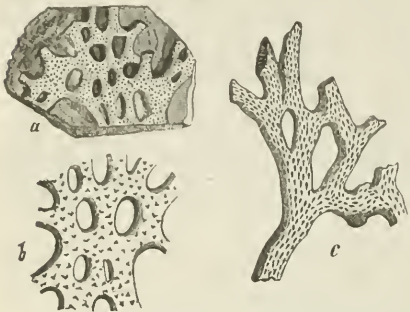


Fig. 14.
a Fragment of *Alveolites ramulosa* (Nich.), of the natural size. *b* Portion of the same, enlarged. *c* Fragment of *Alveolites Billingsi* (Nich.), of the natural size. Corniferous Limestone.

A. Billingsi is allied to *A. ramulosa*, but is distinguished by the larger size of the stems, the dichotomous mode of division, the more open network, and the larger size of the corallites. From *A. labiosa* it is distinguished by its reticulated form and closer corallites.

Locality and Formation.—Not very rare in the Corniferous Limestone of Port Colborne and Lot 6, Con. 1, Wainfleet.

64. Alveolites Selwynii (Nicholson).

(Plate VII. Fig. 4.)

Alveolites Selwynii (Nicholson), *Geological Magazine*, Jan., 1874.

Corallum forming an irregularly shaped crust or depressed mass about a line in thickness. The corallites are extremely oblique to the surface, and open by calices which have the form of curved or lunate slits, the length of which is about three quarters of a line, whilst their width is only about a tenth of a line in the centre. The calices are placed in irregularly alternating rows, or sometimes in an indistinctly sub-spiral manner, and are about half a line or three quarters of a line apart.

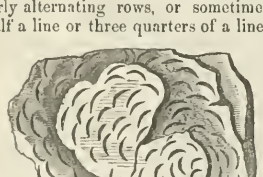


Fig. 15.
A fragment of the upper surface of the *Alveolites Selwynii* (Nich.), enlarged. Corniferous Limestone.

This curious form belongs to the same section of *Alveolites* as *A. sub-orbicularis*, (Lam.) *A. Goldfussi*, (Billings), and *A. depressa* (Edwards and Haime). It is distinguished by the remote, curved, fissure-like calices, with nearly parallel walls, and by the absence of any distinct concentric arrangement of the corallites. In the shape of the calices it somewhat resembles *Cœnites labrosus* (Edwards and Haime), but it is in reality totally different both in its general form and in its real structure.

I have only seen a single example of the species. It is dedicated to Alfred R. C. Selwyn, Esq., F. G. S., the Director of the Geological Survey of Canada.

Locality and Formation.—Corniferous Limestone, Port Colborne.

65. Alveolites Goldfussi (Billings).

Alveolites Goldfussi (Billings), *Canadian Journal*, New Series, Vol. V. p. 255, Fig. 5.

Corallum forming irregular undulated expansions, or depressed discoidal masses, several inches in width and from two lines up to two inches in thickness. Under surface covered with a thin concentrically-wrinkled epitheca, similar in every respect to that of a *Favosites*.

The epitheca carries in young examples one, and in aged examples many layers of corallites, which are arranged in a radiating manner round the central point of the coral, and which open very obliquely on the surface. The calices are of large size, in general from three-fourths of a line to one line across, and half a line in height. Their shape is usually transversely oval, or three-sided, the outer side being curved, and the two inner sides straight. Owing to the thinness of the walls of the corallites, the calices do not appear to be separated by any interspaces transversely, but overlap one another. There are no traces of teeth or grooves on the interior of the corallite.

Alveolites Goldfussi is nearly related to three European species, viz., *A. sub-orbicularis*, (Lam.) *A. Labechei* (Edwards and Haime), and *A. Grayi* (Edwards and Haime), the first from the Devonian formation, and the two last from the Upper Silurian Rocks. From the first of these the present species is separated by the slightly larger dimensions of the corallites, and by the fact that the calices are destitute of the groove and corresponding process or ridge which are such a marked feature in the former. *Alveolites Labechei*, again, has decidedly smaller corallites, and the calices have an internal process, similar to that of *A. sub-orbicularis*, though not so prominent.

Lastly, *Alveolites Grayi*, though larger than *A. sub-orbicularis* or *A. Labechei*, nevertheless has smaller corallites than those of *A. Goldfussi*; whilst the inner surface of the inferior calicinal edge carries a distinct elevated process. As regards the species of *Alveolites* known in the Devonian Rocks of North America, *A. Goldfussi* is too distinct to render any confusion possible.

Locality and Formation.—Abundant, and attaining a large size, in the Hamilton formation of Bartlett's Mills, near Arkona, Township of Bosanquet.

66. Alveolites Fischeri (Billings).

Alveolites Fischeri (Billings), *Canadian Journal*, New Series, vol. V., p. 256, fig. 6.

Corallum in the form of a flattened, palmate or undulating expansion, which appears to have grown in an erect position from a strong root-stalk, and which is celluliferous on both sides. Size of the entire corallum unknown, but certainly large, fragments of several square inches in area being apparently not uncommon. Thickness from less than one line to four lines; corallites oblique to the surface, the calices being transversely oval on the whole, usually with one curved and two straight sides, sometimes diamond-shaped, with four straight sides. In typical examples the calices have a long diameter of about half a line (sometimes more) and a short diameter of about a fourth of a line; and they are separated by intervals of about half a line or less, measured either vertically or transversely across the frond. The interior of the calice exhibits no internal process or ridge.

According to Mr. Billings, the calices in this species are "distant from each other about two-thirds of a line in the vertical, and a little less in the transverse direction of the frond." I have, however, seen no examples in which the calices are so remote as this; and I can only suppose that Mr. Billings must have taken his measurements from older and larger specimens than any which have come under my observation.

Alveolites Fischeri in some respects is closely allied to *A. Goldfussi* and *A. sub-orbicularis*; but it differs in its general form altogether, since it is celluliferous on both of its sides; instead of having the corallites opening on the upper surface, whilst the under surface is covered by an epitheca. It is also distinguished by the proportions of its corallites, which are uniformly smaller than in *A. Goldfussi*, and which do not carry the internal process of *A. sub-orbicularis*. Mr. Billings records the species from the Hamilton formation, but I have also found it, though rarely, in the Corniferous Limestone.

Locality and Formation.—Corniferous Limestone of Port Colborne. Hamilton formation, Bartlett's Mills, near Arkona, Township of Bosanquet.

67. Alveolites frondosa (Nicholson).

Alveolites frondosa (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum forming elongated, sometimes palmate expansions, which appear to have grown in an erect position from a rooted base, and which are celluliferous on the two sides.

The width of these expansions appears never to have been over an inch and a quarter, often less, and the thickness rarely exceeds two lines, but the height is unknown, and certainly exceeded two inches in some (probably in many) cases. The corallites spring from the median plane of the frond on both sides, are very oblique to the surface, and have very thick walls. The calices are small, transversely oval, or sub-triangular, arranged in oblique lines, their long diameter being not more than from one-fourth to one-third of a line, with a transverse diameter one-half less. The inferior lip of the calice is thin and prominent, but there are no traces of any internal ridge or tooth. The calices are separated by intervals of about one-third of a line in the vertical direction of the frond, and one-fourth of a line or less in the transverse direction of the frond. There can be no question as to the entire distinctness of this not uncommon species. It is readily distinguished from all other species of the genus except *A. Fischeri*, Billings, by its peculiar form and mode of growth, and it is separated from this by the very much smaller size of the corallites, and their much closer arrangement. The only remaining species which has been recorded from the Devonian rocks of Canada is *A. squamosa* (Billings), but a reference to the subjoined description will show the entire distinctness of this from *A. frondosa*. "This species" (*A. squamosa*) "is found in wide, flat, irregular expansions, sometimes six or seven inches in breadth, and from half an inch to one inch and a half in thickness; composed of successive, and often much distorted, layers, the cells opening out upon the surface very obliquely, and separated from one another by exceedingly thin partitions, which, when silicified and well brought out by the action of the weather, present a peculiarly rough squamose appearance. The cells are linear, in general about half a line in length, and apparently about one-tenth of a line in width. One of the specimens examined exhibits two spots, one-fourth of an inch wide each, where the cells are less than half the average size. There are obscure indications of a central ridge on one side of the cell in this species, as there is in *A. sub-orbicularis*." (Billings, *Can. Jour.*, New Ser., Vol. V., p. 257.)

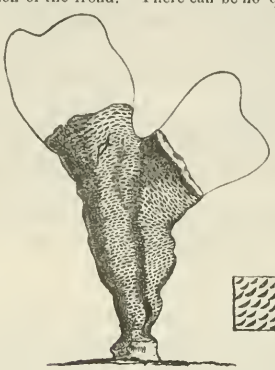


Fig. 16.

Portion of the frond of *Alveolites frondosa* [Nicholson]. a Fragment of the same magnified. From the Hamilton formation.

From the above description, it is obvious that *A. squamosa* belongs to the same natural group of *Alveolites* as *A. Goldfussi*, *A. sub-orbicularis* *A. Labechei*, and *A. Grayi*. On the other hand *A. frondosa* agrees with *A. Fischeri* in the fact that the corallum had the form of a flattened expansion, which was attached below to some foreign object by a strong foot-stalk, and which carried the corallites on both sides. Whilst agreeing in this respect with *A. Fischeri*, the present species is nevertheless readily distinguished by the dimensions of the corallites.

Locality and Formation.—Common in the Hamilton Formation at Bartlett's Mills, near Arkona, in the Township of Bosanquet.

Genus Striatopora (Hall).

"Ramose, coralla solid; stems composed of angular cells; apertures of cells opening upon the surface into expanded angular cup-like depressions; interior of the cell rayed or striated; striæ extending beyond the aperture of the cell." (Hall, Pal. New York, Vol. II. p. 156).

As regards the typical species of this genus, viz.: *S. flexuosa* (Hall), from the Niagara group, some doubt has obtained as to its Cœlenterate character, and it has been referred to the class of the *Polyzoa*. There is, however, no doubt as to its being a true coral. One species of the genus, viz.: *S. Linneana* (Billings) has been recorded from the Devonian Rocks of Canada, and the close relationship between this and the ramose species of *Favosites* is obvious. Professor Hall has also recorded a species of the genus from the Hamilton group of Iowa, (viz.: *Striatopora rugosa*, Hall, Geology of Iowa, Vol. I., Part 2, p. 479, Plate I. Fig. 6),

though it would appear that this is really identical with the previously described *S.(Cyathopora) Iowensis* of Dale Owen. Lastly a species of the genus has been recorded by Messrs. Meek & Worthen, from the Lower Helderberg group of Missouri, under the name of *S. Missouriensis* (Geology of Illinois, Vol. III. p. 369, Plate VII. Fig. 4).

68. Striatopora Linneana (Billings).

Striatopora Linneana (Billings), *Canadian Journal*, New Series, Vol. V. p. 253, Fig. I.

"Stems, two or three lines in diameter, branching at an angle of 75° to 80°; cells variable in size, the greater number with the expanded mouth one line wide, and the circular cavity at the bottom from one-third to one-half of a line; the smaller or younger cells, of all sizes, are somewhat uniformly distributed amongst the larger. In the perfect specimens the mouths of the cells are everywhere in contact with each other, the edges of the walls between them sharp, and the form more or less polygonal, generally five or six-sided. In worn specimens the cells are more nearly circular, and the walls obtusely rounded on the edge. The striæ in the cell-mouths not observed" (Billings, loc. cit. p. 253).

This species is by no means of common occurrence. The few examples which exhibit the internal contracted aperture at the bottom of the expanded calice, can be determined with ease; but those in which these apertures are concealed, can hardly be separated from a small undetermined *Favosites* which abounds in the same beds. The *Favosites* in question occurs in the form of small sub-cylindrical, irregularly lobed, or sub-palmate masses, generally from an inch to an inch and a half in height, the corallites being unequally sized, polygonal, and thin-walled. The difficulty is still further increased by the fact that *Striatopora Linneana* does not appear to possess the radiating striæ which are so characteristic of the genus.

Locality and Formation.—Rare in the Hamilton Formation of Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Trachypora (Edwards and Haime).

"Corallum dendroid, the branches presenting calices which are only slightly salient, and in which there are no radiating septa; cœnenchyma very abundant, solid, and with the surface marked by strong irregular, vermicular, and sub-echinulated striæ." (Edwards and Haime, *Pol. Foss. des Terr. Paléoz.* p. 305).

M. M. Edwards and Haime have described one species of this genus (*T. Davidsoni*) from the Devonian Rocks of Europe, and Mr. Billings has recorded another (*T. elegantula*) from the Hamilton group of Ontario.

69. Trachypora elegantula (Billings).

Trachypora elegantula (Billings), *Canadian Journal*, New Series, Vol. V. p. 254.

Corallum solid, ramose; the stems from one and a half to two lines in diameter, branching at an angle of 75°. Corallites arranged in four or five rows, parallel with the direction of the axis of the branch. Calices excavated in the cœnenchyma, oval, about two-thirds of a line in their long or vertical diameter, and half a line in their short or transverse diameter. The calices are surrounded by a prominent margin, and are usually separated by intervals of about half a line. Not uncommonly an extra corallite is intercalated between the regular vertical rows. The surface of the cœnenchyma is ornamented with slightly flexuous broken striæ, four or five of which occupy the space of one line.

This elegant species is readily distinguished from the only other known form of the genus (viz., *T. Davidsoni*) by its cells arranged in a linear series, and its non-echinulate striæ.

Locality and Formation.—Hamilton Formation of Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Chætetes (Fischer).

Corallum ramose, massive, or incrusting, composed of elongated basaltiform corallites, which are in close contact, and are not united by any cœnenchyma. Tabulæ well developed; septa absent; no mural pores.

The genus *Chætetes* is nearly allied to *Favosites*, but is separated by the absence of mural pores. Very similar in all essential respects to *Chætetes* is the genus *Stenopora*, of Lonsdale, the differential character of which is stated to be the presence of minute styliform processes at the angles of the calices. Good authorities, however, reject the genus *Stenopora* altogether, and refer the forms placed here partly to *Favosites* and partly to *Chætetes*. Lastly, the genus *Monticulipora* has been founded by D'Orbigny to include species of *Chætetes* which increase by gemmation, instead of fissiparously, as is ordinarily the case in the genus.

In the present state of our knowledge, it seems almost impossible to separate these three genera; or, at any rate, it is certainly often impossible, after the most careful examination and comparison, to decide positively to which one of them a given specimen belongs. In the Hamilton Formation of Western Ontario occur three small corals which are certainly referable to one or other of these three genera, and which I shall provisionally consider as belonging to the genus *Chætetes*. All three I have been unable to identify with previously described forms; and I have, therefore, been compelled, though with great reluctance, to consider them as new.

70. Chætetes moniliformis (Nicholson).

Chætetes moniliformis (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum ramose, the branches having a diameter of from three to five lines. Corallites polygonal, with thin walls, for the most part nearly equal in size, but having a few very small ones intercalated amongst the larger ones. The surface exhibits rounded eminences ("mamelons") placed at distances of rather more than a line, over which the calices are larger than in the intervals between them. About four calices in the space of one line. At each of the angles of each calice is a minute nodular thickening, which gives a peculiar beaded appearance to the surface, but which is not prolonged inwards into the interior of the corallite in the form of a spine. On the contrary, well preserved specimens show that these bead-like or moniliform thickenings of the angles of the calices are continued above the general surface in the form of short, blunt spines, which communicate to the coral a roughness readily perceptible to the touch.

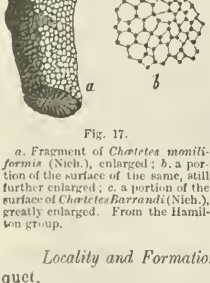


Fig. 17.

a. Fragment of *Chætetes moniliformis* (Nich.), enlarged; *b*, a portion of the surface of the same, still further enlarged; *c*. a portion of the surface of *Chætetes Barrandi* (Nich.), greatly enlarged. From the Hamilton group.

Chætetes moniliformis appears to be readily distinguished from previously recorded examples of the genera *Chætetes*, *Monticulipora*, and *Stenopora*, by the moniliform thickenings of the angles of the calices and the spiniform surface-projections therefrom proceeding (fig. 17, *b*). The walls of the calices are thin, and are themselves destitute of spines or tubercles, the spines exclusively proceeding from the points where the angles of contiguous calices come together. *Stenopora spinigera* (Lonsdale) carries spines, as its name implies, but these are borne by the walls of the calices all round, and the other characters of the fossil are different. *Stenopora exilis* (Dawson), from the Carboniferous Rocks of Nova Scotia, also possesses spines, but these likewise spring from the margins of the calices, are much more numerous than in the present species, and are different in form and arrangement, whilst the calices are oval instead of being polygonal, and the entire coral is of a more slender and branching habit. In addition to its peculiar spines, *Chætetes moniliformis*, is further characterised by the comparatively large size of the calices, their thin walls, their polygonal form, and (with the exception of those occupying the "mamelons") their nearly equal dimensions.

Locality and Formation.—Rare in the Hamilton group of Widder, Township of Bosanquet.

71. Chætetes Barrandi (Nicholson).

Chætetes Barrandi (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum ramose, or forming small lobate masses, with a diameter of from two to five lines. Corallites polygonal, nearly equal, though with some smaller ones intercalated amongst the larger ones, with thin walls. The surface does not exhibit distinct eminences, but here

and there are groups of corallites slightly larger than the ordinary ones, and separated by intervals of about a line and a half. From four to five calices in the space of one line.

This species is very closely allied to *C. Goldfussi* (Edw. and H.), but is distinguished by the fact that the calices are markedly polygonal, instead of being circular or oval, and that they are sub-equal, with very few smaller ones interspersed amongst them, whereas, in the latter species, there are intercalated amongst the ordinary calices a number of exceedingly minute ones. From the well-known *Chætetes tumidus* of the Carboniferous rocks, again, the present species is distinguished by the polygonal shape of the calices, their thin walls, and their much larger size, the corallites of the former being thick-walled and nearly circular, and there being about eight of them in the space of a line.

Locality and formation.—Not uncommon in the Hamilton group, at Widder, Township of Bosanquet.

72. Chætetes quadrangularis (Nicholson).

Chætetes quadrangularis (Nicholson), *Geological Magazine*, Feb., 1874.

Corallum forming thin crusts of from one-tenth to one-sixth of a line in thickness Corallites sub-equal, with very thin walls, about eight in the space of one line, for the most part polygonal, but often quadrangular in shape. The surface is smooth, and destitute of eminences, nor are there groups of larger corallites regularly interspersed amongst the smaller ones.

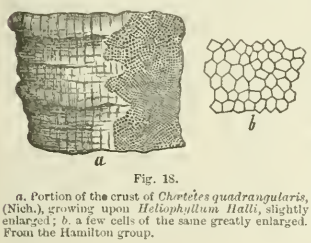


Fig. 18.

a. Portion of the crust of *Chætetes quadrangularis*, (Nich.), growing upon *Heliophyllum Halli*, slightly enlarged; *b*. a few cells of the same greatly enlarged. From the Hamilton group.

This species is found commonly encrusting *Heliophyllum Halli*, and often forming expansions of considerable extent, but apparently never composed of more than one layer of corallites. It is distinguished from *C. tuberculatus* (Edw. and H.) by the smaller size of the corallites, the absence of distinct eminences or gibbosities of the surface ("mamelons,") and the very commonly quadrangular form of the calices.

Locality and formation.—Not uncommon in the Hamilton group of Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Callopora (Hall).

Corallum compound, massive, encrusting, or ramose, the corallites minute, tubular, separated by a still more minutely tubular cœnenchyma. The cœnenchyma always rendered vesicular by transverse diaphragms, and the corallites also usually tabulate. Septa rudimentary or absent.

The genus *Callopora* includes a number of corals, which range from the Upper Silurian (Niagara group) to the Devonian, and which, in some instances, have decidedly the aspect of *Polyzoa*. The affinities of the genus are, however, beyond all question, so far at any rate, as the species which have come under my observation are concerned. *Callopora*, beyond all doubt, is a genus of Tabulate corals, and finds its nearest allies in the genera *Heliolites* and *Fistulipora*. From the former of these, *Callopora* is separated by the absence of septa, and from the latter by the fact that the tubuli of the cœnenchyma are regularly tabulate, whilst the corallites themselves have the theca either open, or partitioned off by few remote horizontal tabulæ.

One large species, which perhaps may subsequently be found to admit of subdivision into two, has occurred to me in the Corniferous Limestone and Hamilton Formation of Western Ontario, and this is very clearly distinct from all previously recorded forms.

73. Callopora incrassata (Nicholson).

Callopora incrassata (Nicholson), Geological Magazine, Jan., 1874.

Corallum sometimes encrusting foreign bodies, sometimes forming large expansions, or sometimes constituting large hemispheric masses which are composed of numerous concentric

layers, superimposed one upon the other. Corallites very minute, tubular, their circular calices slightly elevated above the general surface, and surrounded by a prominent margin. From three to five calices in the space of one line, separated by intervals of from half to two-thirds of their own width. Corallites, sometimes with the theca undivided, but more commonly partitioned off by a few remotely placed horizontal tabulæ. Cœnenchyma composed of exceedingly minute tubuli, which are partitioned off by numerous close-set horizontal diaphragms. No traces of septa. The surface exhibits at intervals of about two lines elongated, star-shaped spaces, sometimes smooth, sometimes punctate or minutely pitted, which are not penetrated by tubes of any kind, and appear to be quite solid. There are generally from three to six corallites surrounding these vacant spaces, which are larger than the others; and the spaces themselves have a long diameter of about a line or more, by a shorter diameter of half a line. In some specimens, also, the surface exhibits occasional large conical elevations pierced each by a single canal, the diameter of which is about a line, and which descends vertically into the mass.

The characters of *Callopora incrassata* are most remarkable, and I am not satisfied that two closely related species have not been included under the above description. That we have to deal here with a Tabulate coral allied to *Fistulipora* or *Heliolites* is sufficiently clear; but there are many anomalous points presented by the fossil. The specimens which I have included under this head occur in at least three forms. Some of them form thin crusts upon *Heliophyllum Halli* or *Cystiphyllum vesiculosum*, themselves in turn supporting the tubes of *Ortonia* or *Spirorbis*, or the creeping stolons of *Aulopora*. Others form flattened or undulating expansions, and others appear as irregular or hemispheric masses, varying from an inch in diameter or less, up to the size of a man's head, and composed of numerous concentric layers. The majority of examples exhibit the extraordinary clear spaces on the surface, which are neither penetrated by the corallites nor by the tubuli of the cœnenchyma. These spaces are usually elongated, and often somewhat depressed below the general surface, and prolongations extend from them in a star-like manner. The corallites in their immediate neighbourhood are also usually, some or all, larger than the ordinary ones. Only a few specimens exhibit the large conical elevations perforated by large vertical canals; but in those that do, these structures appear to belong properly to the fossil, and not to be extraneous. In other minor respects the fossils differ very considerably amongst themselves. The specimens from the Corniferous Limestone are mostly of large size, the corallites are of comparatively small size, the intervals occupied by the cœnenchyma are proportionately wider, and the fact that the cœnenchyma is composed of minute tubuli can not be determined. I feel, however, pretty sure that these peculiarities are simply to be ascribed to the method in which the specimens from this formation have been fossilised. In the specimens from the Hamilton formation, again, the peculiar vacant spaces are not always recognisable, and appear to be certainly absent in some instances over areas of considerable extent. Most of the Hamilton specimens show very clearly the tubular nature of the cœnenchyma, but there is a good deal of difference as to the amount of cœnenchyma. Some examples have the corallites separated by intervals of nearly their own width, the interspaces being filled with circular or polygonal tubules. Others, on the other hand, have the corallites nearly in contact, with but a single row of exceedingly minute tubuli separating them. An epitheca, so far as I have seen, is only occasionally present, and the flattened expansions often carry corallites on both sides.

Fig. 19.

Callopora incrassata, (Nich). *a*. A fragment, natural size. *b*. A portion of the surface magnified, showing the calices and cœnenchymal tubuli. *c*. A portion of the surface less highly magnified showing a vacant space surrounded by corallites. *d*. Vertical section of a fragment enlarged. From the Hamilton group.

Locality and Formation.—Corniferous Limestone of Port Colborne, and more abundantly in the same formation at Hagersville. Common in the Hamilton formation at Widder, and also at Bartlett's Mills, near Arkona, in the Townships of Bosanquet and South Williams.

Genus Fistulipora (McCoy).

"Corallum encrusting or forming large masses, composed of long, simple, cylindrical, thick-walled tubes, the mouths of which open as simple, equal, circular, smooth-edged cells on the surface, and have numerous transverse diaphragms at variable distances; intervals between the tubes occupied by a cellular network of small vesicular plates, or capillary tubules traversed by diaphragms." (Brit. Pal. Foss. p. 11). The genus *Fistulipora* presents close affinities to the genus *Heliolites* and also to *Callopora*. From the former, *Fistulipora* is distinguished by the fact that the corallites are destitute of septa, whilst it differs from the latter genus in the fact that the cœnenchyma is regularly tubular, and that both the corallites and the intervening tubuli are traversed by numerous and regular tabulæ.

One species of the genus, viz. *F. Canadensis* (Billings), has been recognised as occuring in the Devonian rocks of Canada.

74. Fistulipora Canadensis (Billings).

Fistulipora Canadensis (Billings); Geol. Survey, Canada, Rep. for 1857, p. 175; *Canadian Naturalist*, Vol. III., p. 420; and *Canadian Journal*, New Series, Vol. IV, p. 98, Fig. 1.

Corallum forming irregular masses, or, more commonly, large undulating crusts or expansions, from half an inch to an inch or more in thickness. Under surface covered with a thin concentrically-wrinkled epitheca. Corallites perfectly cylindrical, from a third of a line to half a line in diameter, usually about half a line distant from one another, sometimes one line or more, their mouths slightly projecting above the general surface. Cœnenchyma composed of minute, polygonal or sub-circular tubuli, of which from two to four occupy the space of one line. The number of tubuli separating the various corallites varies from a single row up to three or four rows. Both the corallites and the intermediate tubuli of the cœnenchyma exhibit numerous close-set and well developed tabulæ.

Fistulipora Canadensis occurs very abundantly in both the Corniferous Limestone and the Hamilton formation of Western Ontario; and though there are some slight differences between the examples from these two formations, these differences do not appear to be of specific value. *F. Canadensis* is very closely allied to *F. decipiens* (McCoy), from the Upper Silurian Rocks, the chief or only distinction of importance being that the tubuli of the cœnenchyma are considerably larger in the former than they are in the latter.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne, Ridgeway, Hagersville, &c. Also in the Hamilton formation at Bartletts's Mills, near Arkona, Township of Bosanquet.

Genus Michelinia (De Koninck).

Corallum composite, forming hemispherical, depressed, or pyriform masses of prismatic or sub-cylindrical corallites. Walls of the corallites perforated by mural pores. Tabulæ well developed, vesicular. Septa represented by vertical striæ or ridges. Epitheca concentrically wrinkled, with root-like prolongations.

The corals of the genus *Michelinia* approximate closely in their general characters to those belonging to *Favosites*. *Michelinia* is distinguished, however, by the vesicular nature of the tabulæ, the generally larger size of the corallites, and the fact that the septa are present merely in the form of striæ.

Mr. Billings has described three species of *Michelinia*, (viz., *M. convexa*, *M. intermittens* and *M. favosoidea*,) as occuring in the Corniferous Limestone of Western Ontario. Of these only the well known *M. convexa* has come under my notice.

75. Michelinia convexa (D'Orbigny).

Michelinia convexa (D'Orbigny), *Prodr. de Paléont*, t. I. p. 107.
Michelinia convexa (Billings), *Canadian Journal*, New Series, Vol. IV. p. 112, Fig. 13.

Corallum forming hemispherical or pyriform masses of large size. Corallites polygonal of unequal sizes, the larger ones from four to five lines in diameter, the smaller ones from one

to two lines in diameter, Septa represented by numerous (about forty) vertical striæ. Mural pores generally in two or three rows on each of the prismatic faces of the corallites, sometimes in one row, sometimes in several, distant from one another vertically from half a line to over one line. Tabulæ exceedingly convex and gibbous, usually with two, three, or four vesicular swellings round their margins, distant from one another from half a line to a line and a half.

Locality and Formation.—This fine species is of not uncommon occurrence at various localities in the Corniferous Limestone of Western Ontario. Amongst localities where it has been observed, may be mentioned Port Colborne; Lot 6, Con. 1, Wainfleet; Oxford, near Woodstock, Ridgeway and Hagersville. It has also been recorded from the Devonian rocks of Michigan, and Preston County, Virginia.

CHAPTER III.

Brachiopoda of the Corniferous and Hamilton Formations.

The number of *Brachiopoda* in the Devonian Rocks of Western Ontario is very considerable, but good specimens are not obtainable in many parts of the Corniferous Limestone, and our collection of these fossils is not so complete as that of the corals. For this reason, I have, in treating of this group of fossils, availed myself largely of the published papers on this subject by Mr. Billings (*Canadian Journ.*, New Series. Vols. v. and vi.), and also of Prof. Hall's magnificent work on the *Brachiopoda* of the Devonian Formation of the State of New York (Pal. N. Y. Vol. iv). More especially our specimens, except in a few instances, do not exhibit the internal characters of the valves, so important in this class of fossils, and these I have generally quoted at length, for the benefit of Canadian students, from the works of one or other of the above-mentioned eminent palæontologists.

Altogether, I have identified about forty-three species of Brachiopods from the Devonian of Ontario, belonging to the following genera:—*Strophomena* (seven species), *Streptorhynchus* (one species) *Orthis* (two species), *Chonetes* (seven species), *Productella* (one species), *Spirifera* (five species), *Cyrtina* (one species), *Atrypa* (two species), *Athyris* (two species), *Leiorhynchus* (two species), *Spirigera* (three species), *Retzia* (one species), *Amphigenia* (one species), *Calospira* (one species), *Centronella* (two species), *Lingula* (two species), *Pholidops* (one species), and *Crania* (one species).

Of the above, a few species (such as *Strophomena rhomboidalis*, *Spirifera mucronata*, and *Atrypa reticularis*) are well known European forms; and others are nearly allied to European species, if not quite identical with them; but the greater number are peculiar to the American Continent.

76. Strophomena perplana (Conrad).

Strophomena perplana (Conrad), *Journ. Acad. Nat. Science*, Vol. viii. p. 257. Pl. XIV. fig. 11.

Strophomena pluristriata (Conrad,) op. cit., p. 259.

Strophomena delthyris (Conrad), op. cit., p. 258.

Strophomena crenistria (Hall), Report Fourth Geological District. New York, p. 171, fig. 4.

Strophomena fragilis (Hall), Tenth Report on the State Cabinet, p. 143; and Rep. Geol. Survey of Iowa, p. 496. Pl. iii. fig. 6 *a*, 6 *c*.

Strophomena perplana (Billings), *Journ. Can. Institute*, New Series, Vol. VI. p. 343.

Strophodonta perplana; (Hall), *Pal.* N Y., Vol. iv. p. 98. Pls. XI. XII. XVIII. and XIX.

Form semi-elliptical or semi-circular; the width exceeding the length, though not greatly. Valves flattened, or slightly concavo-convex, regularly rounded in front. Hinge-line straight, as long as, or longer than, the greatest width of the shell, which is sometimes extended towards the cardinal angles or almost auriculate. Ventral valve slightly convex, with its greatest convexity at about one-third from the beak; the dorsal valve gently, concave or

nearly flat. Area of the ventral valve about one line wide at the beak, that of the dorsal valve being about half as wide. Both areas are striated, and they form with one another an angle of 90° or a little more. There is no foramen, but sometimes a flat triangular space with a narrow median callosity.

Surface with numerous fine, equal or sub-equal striæ, which increase in number in proceeding from the beaks to the margins, both by bifurcation and intercalation. Six to nine striæ occupy the space of a line; and these are crossed by close-set concentric striæ, from ten to twelve in the space of a line. Besides the close cancellation thus produced, there are often irregular concentric undulations of both valves, and sometimes the bases of minute spines can be detected.

Average examples have a width of about an inch by a length of about three quarters of an inch; but the width on the hinge-line varies from half an inch to two inches.

As regards the internal characters, Prof. Hall states (Pal. N. Y. Vol. iv. p. 100) that "the interior of the ventral valve is marked by large flabelliform divaricator muscular impressions, extending more than half the length of the shell; narrow above, with sides nearly straight, curving below and deeply divided in front, each division showing four or five lobes. The occlusor impressions are two semi-oval elevated spots a little below the apex, the centre becoming a thickened ridge or process lying beneath the place of the foramen, with a cavity on each side for the insertion of the bifurcate dorsal cardinal process. * * * The muscular impressions of the dorsal valve are distinctly but not strongly marked; these are separated above by a median ridge which divides in the bifurcating cardinal process, and this is supported on each side by an oblique pustulose ridge which gradually merges into the surface of the shell."

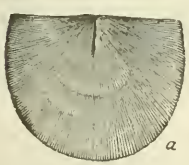


Fig. 20.

Strophomena perplana (Conrad). *a* A medium-sized individual, of the natural size; *a* A portion of the surface of the same, enlarged. Corniferous Limestone.

Strophomena perplana (Conrad), belongs to a group of Strophomenoid shells separated by Prof. Hall from *Strophomena* proper, to form a new genus, which he terms *Strophodonta*. The chief peculiarity of the forms included by Hall in his genus *Strophodonta* is the absence of a foramen in the area of the ventral valve; but as the forms in question are in most respects otherwise undistinguishable from the typical species of *Strophomena*, it would seem advisable not to regard this peculiarity as being of more than at any rate sub-generic value. *S. perplana* is an extremely characteristic species of the Devonian Rocks of North America, and is in general readily recognised by its flattened form, its fine equal striæ, and the close concentric striation of the surface in well preserved specimens.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne, and lot 6, Con. 1, Wainfleet.

77. Strophomena demissa (Conrad).

Strophomena demissa (Conrad), *Journ. Acad. Nat. Sciences, Philadelphia*, Vol. VIII, p. 258, pl. 14, fig. 14.

Strophomena demissa (Hall), Tenth Report on the State Cabinet, p. 137.

Strophodonta demissa (Hall), Report on the Geological Survey of Iowa, p. 495, Pl. III, fig. 5.

Strophomena demissa (Billings), *Journ. Can. Institute*, New Series, Vol. VI, p. 341, figs. 116-118.

Strophodonta demissa (Hall), *Pal. N. Y.*, Vol. IV, pp. 81, 101, 114.

Shell very variable both in form and in dimensions. The form is usually semi-elliptical, but may be sub-quadrate or sub-triangular. Usually the width of the shell exceeds the length, but sometimes both dimensions are equal, and occasionally the width is less than the length. The hinge line is usually equal to or greater than the greatest width of the shell, and the cardinal angles are often extended or auriculate. Specimens vary from a third of an inch to an inch and a half in width.

The ventral valve is convex, sometimes strongly so, and the convexity is usually uniform and regular from the umbo to the ventral margin. The dorsal valve is moderately concave.

The beak of the ventral valve is small, prominent, and slightly incurved; the area of moderate width, and sometimes with a smooth triangular space occupying the place of the foramen. The dorsal area narrow.

The surface is marked with "numerous crowded striæ, about nine or ten of which are much stronger and more elevated on the umbo of the ventral valve, with finer ones coming in between and on either side; striæ frequently increasing by intercalation and bifurcation, until they become very numerous and much finer at the margin. On the dorsal valve, the striæ are similar to those of the ventral valve" (Hall).

According to the observer just quoted, "the interior of the ventral valve, and casts of the same, show a large flabelliform divaricator muscular impression, which is somewhat widely separated in front, and each division distinctly lobed. The occluser muscular impressions occupy a semi-elliptical space on each side of a narrow central depression, the marking on either side being double in well preserved specimens. The upper extremities of this impression are close under the arch of the umbo, and separated by a smooth space from the divaricator impressions. Beyond the muscular impressions, the interior surface is minutely pustulose, the points being more prominent just without their limits; beyond which the course of the vascular impressions can be distinctly traced. In the dorsal valve the anterior and posterior occlusor muscular impressions are very conspicuous and deeply marked, and often limited by an elevated ridge, a narrow longitudinal ridge dividing the two pairs. On each side, and below the muscular impressions, the surface is marked by small pustules or tubercles; and beyond these the surface is minutely pustulose, the vascular impressions becoming distinct towards the margin. The cardinal process is divided from the base, the divisions strongly diverging." (*Palæontology of New York*, Vol. IV, p. 103.

S. demissa, like the preceding, belongs to the section elevated by Hall to the rank of a genus under the name of *Strophodonta*. It is a variable species, and unless the hinge-line be preserved with the area, it is not always possible to refer examples to it with certainty. The species occurs in almost every sub-division of the Devonian series of North America.

Locality and Formation.—Corniferous Limestone of Port Colborne and of numerous other localities in Western Ontario.

78. Strophomena inequistriata (Conrad).

Strophomena inequistriata (Conrad), *Journal Acad. Nat. Sciences, Philadelphia*, Vol. VIII., p. 254, Plate XIV. Fig. 2.

Strophomena inequistriata (Hall), Geol. Rep. 4th District, p. 200, Fig. 4; and Tenth Report on the State Cabinet, p. 142.

Strophomena inequistriata (Billings), *Journal Canadian Institute*, New Series, Vol. VI., p. 338.

Strophodonta inequistriata (Hall), Pal. New York, Vol. IV., p. 106, Plate XVIII, Figs. 2*a*—*k*.

[Compare *Orthis interstrialis* (Phillips), Pal. Foss. p. 61, Plate XXV. Figs. 103 *a–d*; *Leptæna interstrialis* (Davidson), Brit. Fossil Brachiopoda, p. 85, Plate XVIII., Figs. 15–18; *Strophodonta varistriata*, var. *arata* (Hall), Pal. New York, Vol. III., p. 183, Plate 18, Figs. 1*a–i*; *Strophodonta textilis* (Hall), Pal. New York, Vol. IV., p. 108, Plate XVIII. Fig. 3; and *Strophodonta concava* (Hall), Pal. New York, Vol. IV., p. 96, Plate XVI.]

Shell semi-oval or semi-circular, widest at the hinge-line, which varies from one to three inches in length. Cardinal angles usually somewhat acute, and sometimes eared. Width of the shell usually from a fourth to a third greater than the length. Valves concavo-convex; the ventral valve convex, with a variable curvature, often abruptly arched towards the margin; the dorsal valve concave, but generally less strongly curved than the ventral. Beak of the ventral valve apparently very variable in its prominence; the area narrow, vertically striated, and crenulated in the neighbourhood of the beak.

Surface marked with distant elevated simple striæ, which increase towards the margins of the shell by interstitial additions, and which are separated by flat or slightly concave interspaces, distant from half a line to a line at the margin. These interspaces are occupied by exceedingly fine and close longitudinal striæ, from four to eight existing in one interspace. Further, the coarse and fine radiating striæ are cancellated by a crowded series of exceedingly fine and close-set concentric striæ.

As regards the internal characters of this species, according to Professor Hall, "in the interior of the ventral valve, the occlusor muscular impressions occupy a narrow, subquadrangular elevated space, just beneath the apex, whilst the divaricator muscular imprints occupy a short broad space on each side, and are limited by nearly vertical or slightly curving ridges which have in some degree the appearance of dental lamellæ; within the limits of these ridges the muscular imprints are not strongly marked. In the dorsal valve the posterior occlusor imprints are broad and extending far towards the cardinal line, and often limited externally by a low pustulose ridge; the anterior impressions are small and narrow, separated by a narrow mesial ridge, and margined by diverging elevated ridges, which, above the impression, are united in the mesial ridge from which proceeds the bifurcating cardinal process."

S. inequistriata is placed by Hall in his genus *Strophodonta*, and is stated to possess no foramen; but Mr. Billings asserts that a small linear foramen is present. In most respects *S. inequistriata* appears to be identical, as pointed out by Hall, with *Leptæna* (*Orthis*) *interstrialis*, (Phillips), from the Middle Devonian of Englaud and Europe; and no other distinctions can be at present laid down between the two forms, except that the latter is upon the whole somewhat smaller, and that it does not seem to possess the fine concentric striæ of the former. When the internal characters of *L. interstrialis* are known, other differences may perhaps appear. It may also be doubted, as pointed out by Mr. Billings, if *S. inequistriata* is specifically distinct from the Devonian forms described by Hall under the names of *S. textilis* and *S. concava*. Lastly, *S. inequistriata* is closely allied to the *S. varistriata* of the Lower Helderberg Rocks, and has decided affinities with the still more ancient *S. alternata* of the Lower Silurian. I am unable to see that there are any differences of specific value between this and *S. inequiradiata* Hall, though the opposite is maintained by Hall. *S. inequistriata* may in general be readily recognized by the characters of its surface-ornamentation and by its shape.

Locality and Formation.—Corniferous Limestone, Port Colborne; Lot 6, Con. 1, Wainfleet; Ridgeway, and generally throughout the Corniferous and Hamilton formations of Western Ontario.

79. Strophomena Patersoni (Hall).

Strophomena Patersoni (Hall), Tenth Report on the State Cabinet, p. 114.
Strophomena Patersoni (Billings), *Jour. Can. Institute*, New Series, Vol. VI., p. 340, Fig. 115.

Shell semi-oval, ventral valve convex, depressed towards the cardinal angles, which are slightly extended or auriculate. "Surface marked by distant elevated radiating striæ, and the intermediate spaces by undulating fine striæ, and crossed by short abruptly arching wrinkles, which are interrupted by the strong radiating striæ. The finer radiating striæ on the ventral valve are from three to ten or twelve between the stronger ones; whilst on the dorsal valve the spaces are wider, and there are from ten to twenty finer striæ between the stronger ones. The finer striæ are crossed by equally fine concentric striæ, giving the entire surface a delicately cancellated appearance," (Hall, Pal. N. Y., Vol. IV., p. 89).

S. Patersoni is very closely allied to *S. inequistriata*, from which it is perhaps not specifically distinct. The chief points of distinction are to be found in the smaller convexity of the ventral valve in *S. Patersoni*, in the greater number of the fine intermediate striæ, and in the presence of well-marked concentric wrinkles. *S. Patersoni* is also allied to the Silurian *S. corrugata* of Portlock, but the latter is a flatter and smaller form.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Ridgeway, and Lot 6, Con. 1, Wainfleet.

80. Strophomena ampla (Hall).

Strophomena ampla (Hall), Tenth Report on the State Cabinet, p. 111.
Strophomena ampla (Billings), *Jour. Can. Institute*, New Series, Vol. VI., p. 345.
Strophodonta ampla (Hall), Pal. N. Y., Vol. IV., p. 93, Pl. XIV., 1 *a*—1 *i*.

Shell large, from two to three inches wide, the length from a fourth to a third less, semi-oval or semi-circular, the hinge-line as wide or wider than the greatest width of the shell below. Ventral valve concave, with a slight convexity near the beak; dorsal valve convex, with a concavity in the neighbourhood of the beak, following the curvature of the ventral

valve. Area of the ventral valve from one to three lines in width, transversely striated for from one-third to one half of the distance from the beak to the cardinal angles. Dorsal area narrow and linear.

"Surface marked by angular, sub-equal, interrupted or rugose striæ, which are often made to appear more uniform by the partial exfoliation of the shell. The striæ are bifurcated two or three times before reaching the margin, and they are sometimes increased by intercalation. As usually preserved, they rise at intervals into sharp ridges or elongated nodes; and in well-preserved specimens these are produced into short spines. When the shell is exfoliated, the surface between the striæ is marked by minute pores or tubular openings, which communicate with pustulose elevations on the interior surface of the shell. In the entire cast, these pores mark the surface with considerable regularity, varying in size, and uniformly larger below the middle, where the valve is more abruptly reflected

"The muscular impressions of the ventral valve are very large and broad, and the margins distinctly limited by a curving elevated border. It is divided in the middle by a more or less developed septum, which terminates in a prominent callosity beneath the place of the foramen: this callosity gives a bilobate character to the cast of the rostral cavity. The place of the occlusor muscles is strongly marked, and that of the divaricator muscles distinctly bilobed. The muscular imprints are about two-thirds as long as wide, and the width is often nearly equal to half the width of the shell. The muscular impressions of the dorsal valve are narrow and elongate, and are separated by a rounded median ridge, which divides above and continues in two diverging processes, the full extent of which is not shown in any of our specimens," (Hall, Pal. N. Y., Vol. IV., p. 94).

Professor Hall places *S. ampla* in his genus *Strophodonta*, and states that the place of a foramen is taken by a smooth triangular space with a narrow callosity along its centre. According to Mr. Billings, however, there is a small linear closed foramen, one-third of an line in width. It seems very doubtful if there is any difference of specific value between *S. ampla* and the more ancient Lower Helderberg species, *S. punctulifera* (Conrad), *S. Headleyana* (Hall), and *S. cavumbona* (Hall). Mr. Billings points out that *S. ampla* and *S. punctulifera* are substantially identical, the Corniferous specimens, however, being on an average larger than those figured by Hall from the Lower Heldelberg. I have, however, collected examples of *S. punctulifera* the dimensions of which are fully equal to those of the Devonian form. It would probably be wise, therefore, to substitute *S. punctulifera* for *S. ampla*, retaining the names *Headleyana* and *cavumbona* in the meanwhile as designations of varietal or sub-specific value, thus carrying out Professor Hall's own view that a more extensive series of specimens will show that all these forms belong to "one species presenting variations of size, degree of convexity, width of area, and difference of surface-markings due to the influence of the sediment and other surrounding conditions which affect the development of animal life." (For descriptions and figures of *S. Headleyana*, *S. cavumbona*, and *S. punctulifera*, see Palæontology of New York, Vol. III, p. 185, Pl XX., Figs. 1—3; p. 187, Pl. XXI, Figs. 1—3, and p. 188, Plate XXI, Fig. 4, and Pl. XXIII, Figs. 4—7.

Strophomena ampla may as a rule be recognized by its peculiar form and the characteristic ornamentation of the surface. The commonest appearance is when the shell is partially exfoliated, and the puncta between the striæ are visible. Spines cannot usually be detected, but Mr. Billings has figured a specimen in which the whole surface is adorned with short spines.

Locality and Formation.—Corniferous Limestone of Port Colborne.

81. Strophomena nacrea (Hall).

Strophomena (*Strophodonta*) *nacrea* (Hall), Tenth Report on the State Cabinet, p. 144.
Strophodonta lepida (Hall), *Geol. Report, Iowa*, Vol. I., Part ii., p. 493, Pl. III., figs. 3, *a*, *b*, *c*.
Strophomena lepida (Billings), *Journ. Can. Institute*, New Series, Vol. VI. p. 344.
Strophodonta nacrea (Hall), *Pal. N. Y.*, Vol. IV., p. 104, Pl. XVIII., figs. 1, *a*, *b*.

Shell small, from four to nine lines wide, and from three to six lines long, semi-circular, or sub-quadrate, the hinge-line crenulated and as wide as, or wider than, the shell below. Front margin rounded, cardinal angles rounded or extended and angular. Ventral valve

regularly but not greatly convex, depressed towards the cardinal angles. Area narrow, linear, without foramen; beak small. Dorsal valve concave.

Surface shining, smooth, without radiating striæ, but with very faint concentric lines of growth.

"The muscular impressions in the ventral valve extend more than half the length of the shell. The divaricator muscular imprints are deeply depressed, elongate-ovate, narrowing above, and somewhat widely separated below; while the occlusor impressions are narrow ovate spots on the thickened portion of the shell, and below these extends a narrow elevated band separating the other impressions. In the dorsal valve, the anterior and posterior occlusor impressions are small and not strongly defined. The cardinal process is slender, bifurcating, with a narrow rounded ridge extending from its base down the middle of the valve. The interior of the shell, excepting the muscular impressions, is studded with prominent scattered granules or papillæ. The crenulations on the hinge-line are rather distant but conspicuous." (Hall, *Pal. N. Y.*, Vol. IV., p. 104).

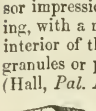


Fig. 21. *Strophomena nacrea*, (Hall), of the natural size. Corniferous Limestone.

Strophodonta nacrea is readily recognised by its general form and smooth surface, and, when the shell is preserved, by its pearly lustre. It is nearly allied to the *Strophomena* (*Orthis*) *lepis* of Bronn, from the Devonian Rocks of Europe; but according to Hall, it is distinguished by being much less distinctly striated, and by having only about half as many crenulations on the hinge-line.

Locality and formation.—Rare in the Corniferous Limestone of Port Colborne.

82. Strophomena rhomboidalis (Wahlenberg).

This well-known species is so familiar to all students of Palæozoic Geology, and its characters are so readily recognised, that it seems unnecessary to occupy space here with a description of its peculiarities, or a recapitulation of its ponderous synonymy. It may, as a rule, be determined at once by its rhomboidal form, the deep concentric wrinkling of the visceral disc, and the abrupt geniculation of both valves towards the dorsal side at a point situated at from one half to two-thirds of the length measured from the beak. *S. rhomboidalis* is known to have commenced its existence as early as the Lower Silurian period; it is an abundant Upper Silurian fossil; it is found throughout the Devonian; and it even extends into the Carboniferous rocks.

Locality and formation.—Common throughout the Corniferous Limestone of Western Ontario. Also in the Hamilton group of the same district, though not known in the Hamilton series of the State of New York.

Genus Streptorhynchus (King).

The genus *Streptorhynchus* includes strophomenoid shells of a semi-circular or semi-elliptical shape, "concavo-convex or plano-convex, and sometimes with both valves convex; they are externally striated with rounded bifurcating thread-like striæ, which are crossed by fine concentric lines; and in some forms the stronger striæ are distant, with finer radiating and concentric striæ cancellating the intermediate spaces. The ventral beak is sometimes produced and bent or twisted, and the fissure beneath the beak is closed or partially closed by a solid deltidium, while the area is subject to great variation. A narrow area often exists on the dorsal valve, but this is not a constant character." (Hall, *Pal. N.Y.*, vol. iv, p. 64).

The genus *Streptorhynchus* is very closely allied to *Strophomena* proper, the most obvious external character by which the former is distinguished being the irregular twisting of the beak of the ventral valve. The genus is represented in all the great palæozoic formations, from the Lower Silurian upwards, and appears to be very abundantly represented in the Devonian Rocks of North America, so far as individuals are concerned, Prof. Hall, however, refers all the Devonian forms of this genus to one exceedingly variable species, the *Streptorhynchus Chemungensis* of Conrad. Only one form of the group has been recorded as yet from the Devonian Rocks of Canada, namely, the *S. Pandora* of Mr. Billings.

83. Streptorhynchus Pandora (Billings).

Streptorhynchus Pandora (Billings), *Canadian Journal*, New Series, vol. v. p. 266, figs. 12, 13.

Streptorhynchus Chemungensis, var. *Pandora* (Hall), *Pal. N.Y.*, vol. iv, Pl. IV, figs. 11, 19; and Pl. IX. figs. 18, 25, and 27.

[Compare *Strophomena Woolworthana* (Hall), *Pal. N. Y.*, vol. iii, Pl. XVI, figs. 1 and 2].

Shell semi oval, about one-fourth wider than long; the hinge-line equal to the greatest width of the shell, and forming right angles with the nearly straight sides, whilst the front margin is broadly rounded. Ventral valve elevated at the umbo, whence the surface slopes in all directions to the margin. Area of the ventral valve large and triangular, extending the whole length of the hinge-line. Foramen large, triangular, about twice as wide at the base as the height, nearly or quite closed by a convex deltidium. Dorsal valve moderately convex, slightly depressed towards the cardinal angles, with a narrow area.

Surface marked by fine strongly elevated thread-like striæ, which are sometimes alternately large and small, and which increase in approaching the margin both by bifurcation and interstitial addition. About four striæ in the width of one line, sometimes more.

"The interior of the ventral valve is marked by strong dental lamellæ and a broad flabellate muscular impression, which in well preserved specimens shows the cordiform imprint of the adductors, and a short low mesial septum in the upper part. The interior of the dorsal valve preserves deep dental sockets, with thick socket plates which support the duplicate cardinal process, each division of which is grooved at the extremity. There is likewise a small process between the two branches of the cardinal process; and below the hinge-line, the flabelliform muscular impression is divided by a low rounded mesial longitudinal ridge or obsolete septum." (Hall, *Pal. N. Y.*, vol. iv, p. 68.)

Average specimens have a width of about an inch and a quarter by an inch in length, but larger individuals are known to occur.

According to Hall, *Streptorhynchus Pandora* is merely a form of the very variable *S. Chemungensis*, (Conrad). There is, however, some doubt as to whether the specimens examined by Hall really belong to *S. Pandora*, (Billings); since he states that the longitudinal striæ are "crenulated by fine closely arranged concentric striæ." This is certainly not the case with any of the specimens which have come under my notice, and Mr. Billings explicitly notes the absence of concentric striæ in the examples upon which he founded the species. Hall, also, states that a small central process exists between the two divisions of the cardinal process, but Mr. Billings states that no such process exists in *S. Pandora*. It thus remains uncertain whether the New York specimens are identical with these from Ontario. *S. Pandora* is nearly related to the well known European species *S. crenistria*, from which its only important external difference is the absence of crenulating striæ.

Locality and Formation.—Corniferous Limestone, of Port Colborne, and Hagersville.

Genus Orthis (Dalman).

"Shell variable in shape, sub-circular or quadrate; valves equally or unequally convex; socket valve sometimes slightly concave, with or without a mesial fold or sinus; hinge line straight, generally shorter than the width of the shell; both valves furnished with an area divided by a triangular open fissure for the passage of the pedicle fibres; beaks more or less incurved, that of the larger valve generally more produced; surface, smooth, striated, or ornamented by simple, bifurcated, or intercalated ribs; structure minutely or largely punctated; valves articulating by means of teeth and sockets. In the interior of the larger or ventral valve the vertical dental plates form the walls of the fissure, and extends from the beak to the bottom of the shell; between these a small rounded mesial ridge divides the muscular scars, which extend over two elongated depressions margined on their outer side by the prolonged bases of the dental plates; the cardinal muscles appear to have occupied the greater portion of the anterior division of these two depressions, the pedicle muscles occupying the external and posterior part of the same space; the adductor was probably attached to each side and close to the mesial ridge. In the socket valve the fissure is partially or entirely occupied by a more or less produced simple shelly process, to which were affixed the cardinal

muscular fibres; the inner socket walls are considerably prolonged into the cavity of the shell, under the shape of projecting laminæ, to the extremity of which free fleshy spiral arms may, perhaps, have been affixed. Under this shelly process a longitudinal ridge separates the quadruple impressions of the adductor, which on each side forms two deep oval depressions, placed obliquely one above the other, and separated by lateral ridges branching from the centre one." (Davidson, Brit. Foss. Brachiopoda, Introduction, p. 102).

The genus *Orthis* is very nearly related to *Strophomena*, from which the more typical forms may in general be easily separated by their usually greater convexity, and the rounder and shorter hinge-line. Two species of the genus, viz.: *O. Livia* and *O. Vanuxemi* have been recorded by Mr. Billings as occurring in the Devonian Rocks of Ontario, and both of these have come under my observation.

84. Orthis Livia (Billings).

Orthis Livia (Billings), *Canadian Journal*, New Series, Vol. V. p. 267, Figs. 14-16.
Orthis Livia (?) (Hall), Pal. New York, Vol. IV., Figs. 4*a*–4*c*.

"Sub-orbicular or sub-quadrate; length about eight ninths of the width; greatest width, usually a little in front of the middle; length of hinge line, one-half to two-thirds the width of the shell; cardinal extremities rounded; sides in most specimens somewhat straight, often sufficiently curved to give a circular aspect to the shell; front angles obtusely rounded; front margin in general broadly convex, sometimes with a small space in the middle nearly straight. Dorsal valve of a medium convexity, most elevated about the middle; the outline forming a uniform arch from the depressed beak to the front margin; the slope from the umbo towards the cardinal angles, gently concave; sometimes a barely perceptible mesial depression, commencing in a point at the beak, and becoming obsolete at one-half or two-thirds the length; area small, lying in the plane of the lateral margins; beak minute, forming a small triangular projection, rising scarcely one-fourth of a line above the edge of the area, the point not incurved over, but situated in the plane of the area. Ventral valve moderately convex, most elevated at between one-fourth and one-third the length from the beak, thence descending with a somewhat flat or gently convex slope, to the front and sides, and with a more sudden and somewhat concave slope to the hinge line and cardinal angles; the umbo small, prominent, neatly defined, terminating in a small rounded beak, which is incurved so as to overhang the edge of the area, either not at all or scarcely one-tenth of a line; area triangular, about one fourth larger than that of the dorsal valve, forming an angle of about 105° with the plane of the lateral margin. The foramen not observed, but appears to be wider than high. On looking at the dorsal valve in a direction perpendicular to the plane of the shell, the small rounded umbo of the ventral valve can be seen rising about one-third of a line above the dorsal beak.

"Surface with small sub-angular radiating ridges, of nearly a uniform size, from eight to ten in the width of three lines, increasing by bifurcation, strongly curved outwards to the upper part of the sides and cardinal angles, the intervening grooves sub-angular in the bottom, and equal to the ridges in width. In very perfect specimens, very fine concentric sub-lamellar concentric striæ are visible, seven or eight to one line. In certain conditions of preservation also, the radiating ridges are seen to be sub-tubular, and exhibit numerous small oval or circular openings on their edges, each about the eighth or tenth of a line in width, and from one-fourth to two-thirds of a line distant from each other.

"Width of largest specimen examined, eighteen lines; length, sixteen lines; thickness or depth of both valves, seven lines; height of area of ventral valve at the beak, one line; area of dorsal valve four-fifths of a line; distance between the beaks, one line; length of hinge-line, ten lines. The most common size appears to be one inch in width. The beak of the ventral valve is incurved, so that it would touch a plane projected horizontally through the valve, at one-half the depth of the cavity.

"In some specimens the ventral valve has a faint, barely perceptible mesial fold, extending from the umbo towards the front." (Billings).

I have very little to add to the above exhaustive description of *O. Livia*, by Mr. Billings, the only two additional points of importance that I have observed being the following:—1. The foramen is very large, and is more than twice as wide at the base as it is high. 2. The margin of the shell exhibits, in adult specimens, several well-marked concentric ridges of growth, which are quite independent of the fine concentric striæ which some examples present.

Orthis Livia is an exceedingly elegant species, and can usually be recognised without any difficulty. It is allied to *O. Vanuxemi*, (Hall), but is a larger form, and is more coarsely ribbed.

Locality and Formation.—Corniferous Limestone of, Port Colborne, and Lot 6, Con. 1, Wainfleet.

85. Orthis Vanuxemi (Hall).

Orthis Vanuxemi (Hall), Tenth Report on the State Cabinet, p. 136.

Orthis Vanuxemi (Billings), *Canadian Journal*, New Series, Vol. V., p. 269, figs. 17, 18, 19.

Orthis Vanuxemi (Hall), Pal. N.Y., Vol. IV. Plate VI., fig. 3.

Shell very nearly circular, compressed and flattened; hinge-line very short, rounded. Dorsal valve gently and regularly convex; the beak hardly prominent, not incurved; the area narrow and linear. Ventral valve with its greatest convexity in the neighbourhood of the beak, nearly flat, or commonly slightly concave towards the front; the beak small, but more prominent than that of the dorsal valve, somewhat arched. Area narrow and curved, about one-third wider than the area of the dorsal valve. Foramen comparatively large, wider than high, triangular. Surface covered with close-set, fine, elevated striæ, which increase both by bifurcation and interstitial addition, and which are indistinctly cancellated by concentric striæ. About five striæ in the space of a line, but more in the neighbourhood of the beaks. Entire surface minutely punctate; a few concentric, imbricating lines of growth.

As regards the characters of the interior, "the dorsal valve shows a strong cardinal process, which is continued in a prominent rounded median ridge for half the length of the shell, where it sometimes divides, or gradually becomes obsolete; there are sometimes visible low transverse ridges, which divide the muscular impression. The crural processes are prominent, and sustained below by strong oblique ridges. In the interior of young specimens, the marks of the external striæ are visible nearly or quite to the muscular impression; while in older specimens these marks extend little beyond the margin. The interior of the ventral valve is marked by a large flabelliform muscular impression, which reaches from one-half to two thirds the length of the shell. The central or adductor impression is sometimes simple, and sometimes longitudinally divided by a slight median ridge, which is stronger below. In the older shells the ovarian spaces are pustulose. The dental lamellæ are strong and divergent, supported below by the ridge which margins the muscular impression. Vascular impressions are rarely seen extending beyond the muscular area. Under a lens, the interior surface is distinctly punctate. In all well-preserved specimens the exterior shows minute tubular openings in the striæ; and when the striæ are much worn, these also are to be seen to be tubular, while a farther wearing of the surface shows more distinctly the minute punctate character of the shell."—(Hall, Pal. N.Y., vol. iv., p. 47.)

Orthis Vanuxemi is one of the most characteristic of the Brachiopods of the Hamilton Formation, and though not particularly abundant in Western Ontario, it is a very common species in the State of New York. It is distinguished from *O. Livia* by its finer striation and its more circular form. It is also a smaller species, average specimens having a width of about thirteen lines, and a length of about eleven lines and a half, though examples both smaller and larger than this are not uncommon. Small specimens are not at all unlike the *Orthis hybrida* (Sowerby), of the Silurian Rocks of Europe and North America. There is, also, considerable doubt as to whether the *O. leucosia* and *O. Penelope* of Hall, from the Hamilton group of the State of New York, can be regarded as more than mere varieties of *O. Vanuxemi*.

Locality and formation.—Hamilton group of Widder and Bartlett's Mills, near Arkona, in the Township of Bosanquet. Also at Canandaigua and at various other localities in the Hamilton Formation of the State of New York.

Genus Chonetes (Fischer).

Shell semi-oval or transversely oblong, with a wide straight hinge-line. External margin of the area of the ventral valve furnished with a row of tubular spines. Surface radiately striated, often spinose. Foramen in the ventral area distinct, but partially closed by a pseudo-deltidium. Valves articulated by teeth. Dorsal valve with a cardinal process which is simple at the base, but bifid or grooved at the extremity. Interior of the shell pustulose or papillose.

The genus *Chonetes* is nearly allied to *Producta*, from which it is distinguished by its articulated valves and row of tubular spines on the margin of the ventral area, as well as by other characters of less importance. The spines, unfortunately, are preserved only in the smaller number of specimens, and thus the affinities of a given example have often to be decided apart from this character. Even in the absence of this, however, *Chonetes* may generally be distinguished with ease from *Producta* by the fact that the ventral valve is proportionately less gibbous and ventricose, and the surface striation is finer. On the other hand, the genus *Chonetes* in form and external appearance makes an approach to the genera *Strophomena* and *Leptæna*, and it may thus be regarded as being to some extent a link between the families of the *Strophomenidæ* and *Productidæ*.

Six or seven species of *Chonetes* occur in the Corniferous and Hamilton formations of Canada, of which one, viz., *C. hemispherica* has previously been recorded by Mr. Billings' and all are found in the same formations in the State of New York.

85. Chonetes lineata (Vanuxem).

Strophomena lineata (Vanuxem), Geol. Report of the 3rd District, New York, p. 139, Fig. 6.
Chonetes glabra (Hall), Tenth Report on the State Cabinet, p. 117.
Chonetes lineata (Hall), Pal. N. Y. Vol. IV. p. 121, Pl. XX. Fig. 3.

Shell semi-oval, the length about four-fifths of the width; hinge-line equal to the greatest width of the shell, and forming about right angles with the sides of the shell. Ventral valve very convex, or ventricose, regularly curved from the umbo to the front, the cardinal angles slightly flattened. The sides of the ventral valve nearly straight and the front margin broadly rounded. The dorsal valve concave, the concavity being less than the convexity of the ventral valve. Area of both valves very narrow, that of the dorsal valve linear. Cardinal spines rarely preserved, small, slightly oblique to the hinge-line, rarely more than two or three visible on each side of the hinge line. Surface marked with numerous slightly elevated rounded striæ, about ten in the space of one line, which increase in number by bifurcation and interculation in proceeding from the beak to the margin. In well preserved specimens extremely fine concentric striæ can also be observed. The interior of the dorsal valve exhibits lines of pustules, corresponding with the striæ outside.

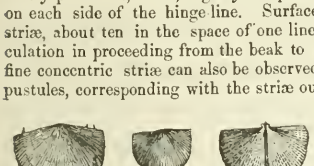


Fig. 22.

a. Ventral valve of *Chonetes lineata*, Hall, natural size; *b*. Ventral valve of the same, after Hall, enlarged and showing the cardinal spines. *c*. Interior of the dorsal valve of the same. All from the Hamilton group.

Chonetes lineata is of not uncommon occurrence in the Devonian Rocks of Canada, both in the Corniferous Limestone and the Hamilton formation, but especially in the latter. Average examples have a width of five lines and a length of about four lines. It is readily distinguished by its general form and surface characters, and it seems very probable that the *Chonetes Vandellana* of Hall (Pal. N. Y., Vol. iv., Pl. xx, Fig. 4.) is nothing more than a variety of this species.

Locality and formation.—Corniferous Limestone of Hagersville and Port Colborne. Abundant in the Hamilton Formation of Bartlett's Mill, near Arkona, in the Township of Bosanquet.

87. Chonetes scitula (Hall).

Chonetes scitula (Hall), *Tenth Report on the State Cabinet*, p. 147.
Chonetes scitula (Hall), Pal. N.Y., Vol. iv., Pl. XXI., Fig. 4.

Shell small, semi-oval or semi-circular, the width exceeding the length by from one-fourth to nearly a third (usually about five lines in width, by three and a half in length). Hinge-line usually not quite equal to the greatest width of the shell, generally producing rectangular cardinal angles. Sides nearly straight; anterior margin rounded broadly. Ventral valve convex, depressed towards the cardinal angles, sometimes regularly curved from the beak to the front, sometimes with a slight mesial depression almost approaching a regular sinus. Dorsal valve very concave, closely applied to the convexity of the ventral valve. Area of the ventral valve, narrow, broadest in the middle, its plane coinciding with that of the cardinal angles. Foramen partially closed by a convex deltidium, partially filled with the cardinal process of the dorsal valve; its shape broadly triangular. Dorsal area linear, about half the width

of the ventral. The cardinal margin of the ventral valve generally shews very distinctly the bases of five tubular spines on each side of the umbo. The surface is marked by fine, subequal, usually rounded, radiating striæ, those near the margin often alternating in size. There are about six of the larger striæ in the space of one line, and there are between fifty and sixty striæ at the margin of the shell, the increase in proceeding from the beak being effected partly by bifurcation and partly by intercalation. In well preserved specimens fine concentric striæ are also visible.

Fig. 23.

a. Chonetes scitula, Hall, natural size. *b.* Area of the same, enlarged. *c. Chonetes lepida*, Hall, natural size. *c.* The same enlarged. All from the Hamilton group.

This pretty little species occurs quite commonly in the decomposed shales of the Hamilton group at Widder, generally in a state of beautiful preservation. It is nearly alied to *Chonetes lineata*, the most satisfactory distinction seeming to be that the dorsal valve is much more deeply concave than in the latter species, whilst the striæ are more prominent. *C. scitula* is also very nearly related to *C. lepida* (Hall), and I should doubt if the latter is truly more than the young of the former. The chief character relied upon to separate these species is that *C. scitula* has the ventral valve uniformly convex, whilst there is a mesial depression in that of *C. lepida*. I have, however, specimens in other respects entirely agreeing with *C. scitula*, but with a slight mesial sinus of the ventral valve. Nevertheless, in deference to the authority of the great American palæontologist, I shall in the meanwhile retain *C. lepida* as a distinct species.

Locality and formation.—Common in the Hamilton Formation of Widder, in the Township of Bosanquet.

88. Chonetes lepida (Hall).

Chonetes lepida (Hall), Tenth Report on the State Cabinet, p. 148.
Chonetes lepida (Hall), Pal. N. Y., Vol. IV., p. 132, Pl. XXI., fig. 5.

The shell in this species in all essential respects agrees with that of *C. scitula* (Hall), and the following may be noted as the only points of distinction :—

1. The form of the shell is sometimes nearly hemispherical, and the width of the hinge-line equals that of the shell below.

2. The gibbous ventral valve exhibits a longitudinal mesial depression, bounded on each side by striæ rather larger and more prominent than the rest.

3. The hinge-line usually exhibits the bases of two or three spines on each side of the beak, but as many as five on each side can sometimes be detected.

4. The number of the radiating striæ on the margin is only about twenty four or twenty-five ; but smaller striæ are sometimes intercalated between these, raising the total number to about fifty.

As before stated, my own impression is, that *Chonetes lepida* is the young of *C. scitula*. Upon this subject, however, Prof. Hall has the following remarks :—

" The original specimens designated as *C. lepida* are very small shells of almost hemispheric form, and one of the characteristics is the mesial depression of the ventral valve. The striæ are rather strong, angular, and, from dividing below, have the appearance of being fasciculate. More extensive collections have brought together a large number of individuals ; and while the characteristic features are preserved in most of the specimens, there are others of the same size which seem like the young of *C. scitula*, but the well-marked specimens of this species have a convexity which precludes them from acquiring by growth the form and convexity of *C. scitula* in its characteristic phases," (*Pal. N. Y.* Vol. IV., p. 133).

Locality and formation.—Small specimens having the characters ascribed to *C. lepida* are not uncommon in the decomposed shales of the Hamilton group, at Widder, Township of Bosanquet.

89. Chonetes mucronata (Hall).

Strophomena mucronata (Hall), *Geol. Report, 4th District, New York*, p. 180, fig. 3.
Chonetes laticosta (Hall), *Tenth Report on the State Cabinet*, p. 119.
Chonetes mucronata (Hall), *Pal. N. Y.*, Vol. IV., Pl. XX., fig. 1, and Pl. XXI., fig. 1.

Shell small, semi-oval, or more or less auriculate, the hinge-line equal to or greater than the greatest width of the shell below. Ventral valve strongly convex, depressed towards the

cardinal angles ; dorsal valve very moderately concave or nearly flat. The surface is marked by from twenty to twenty-four simple, sub-angular ribs, some of which are occasionally bifurcated towards the margin, and which are separated by interspaces wider than themselves. In the cared examples the ribs are obsolete towards the cardinal angles. "The cardinal margin shows two and rarely three spines on each side of the centre, which are abruptly bent outwards so as to lie nearly parallel to the hinge-line, and the outer one extending much beyond the cardinal extremity. The area is very narrow," (Hall).

Fig. 24.

a. Chonetes mucronata, natural size, after Hall ; *a.* The same enlarged ; *b.* A specimen of *C. mucronata* from the Corniferous Limestone of Ontario. Natural size.

Some of the points mentioned in the above description I have not been able to verify from our specimens, as they are mostly imperfect. Thus, I have never seen either a dorsal valve, or a ventral valve exhibiting the spines. Upon the whole, however, I have no doubt but that our specimens are truly referable to *C. mucronata*, as they agree with Hall's description of this species in all essential characters, so far as observed. As occurring in the Marcellus Shale, the ventral valve is stated by Hall as being only slightly convex or nearly flat ; but as occurring in the Corniferous Limestone and Hamilton group, it is said to be "often quite gibbous." Our examples agree with the latter in this, and only differ in having the cardinal angles more or less produced and salient—a phenomenon, however, which Hall states to be of occasional occurrence. The species is nearly allied to *Chonetes deflecta* (Hall), and the two are, perhaps, only varieties of a single species.

Locality and formation.—Rather abundant in the Corniferous Limestone of Rama's Farm, near Port Colborne.

90. Chonetes hemispherica (Hall).

Chonetes hemispherica (Hall), Tenth Report on the State Cabinet, p. 116.

Chonetes hemispherica (Billings), *Canadian Journal*, New Series, Vol. VI. p. 349, Figs. 121–123.

Chonetes hemispherica (Hall), Pal. N. Y. Vol. IV. Pl. XX. Fig. 6.

Shell semi-oval or semi-circular, the greatest width being along the hinge-line. Cardinal angles usually considerably produced and auriculate, sometimes reflected. Ventral valve very convex and ventricose, depressed in the neighbourhood of the ears, and sometimes showing a shallow mesial depression extending towards the front from the beak. Umbo very prominent, incurved, the area being often "inverted, or brought under the body of the shell at right angles to the plane of the margin" (Billings). The area has a width of about half a line, and is obliquely striated, whilst its outer margin carries the bases of from three to four small spines on each side of the umbo, which, however, appear to be very rarely preserved. Dorsal valve concave, following the ventral valve, but with a concavity less than the convexity of the latter. Area of the dorsal valve narrow and almost linear, marked with a row of small transverse depressions or pits, which are most obvious near the umbo.

Surface marked with radiating, rounded, simple ribs, which become obsolete on the ears. A few of the ribs bifurcate. There are from four to five ribs in the space of one line, and they are separated by interspaces about equal to their own width.

The dorsal valve of this species appears to be extremely rare, Hall having never observed it, and Billings having seen but two fragments. I have only come across a single specimen, which exhibits the interior. This example shows the cardinal process to consist of two nearly parallel and closely contiguous divisions, each of which is bifid at the tip. From the base of the cardinal process is continued a mesial ridge, which dies away towards the front of the shell ; and on either side of this are two diverging ridges which coalesce with the preceding at the base of the cardinal process. The radiating ribs are just as conspicuous in the interior as externally, and are marked by minute remote pustules arranged in a single row on each rib. The muscular impressions cannot be made out.

Chonetes hemispherica is readily distinguished by its general form and its coarse striation. The largest specimen I have seen appears to be about sixteen lines along the hinge-line by twelve lines in length ; but average examples are somewhat smaller than this.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne. (Also in the Schoharie Grit and Corniferous Limestone of the State of New York.)

91. Chonetes arcuata (Hall).

Chonetes arcuata (Hall), Tenth Report on the State Cabinet, 116.
Chonetes arcuata (Hall), Pal. New York. Vol. IV., Plate XX., Fig. 7.

Shell semi-elliptical, or nearly semi-circular; the hinge-line equal to, or slightly longer than, the greatest width of the shell; the cardinal angles produced into distinct ears, which, however, are usually short and compressed.

Ventral valve extremely convex or ventricose, often with a shallow longitudinal depression, extending from the umbo to near the middle of the shell. Beak prominent and incurved; hinge-line supporting ten to twelve tubular spines, which are directed obliquely outwards, and are rarely preserved. Dorsal valve deeply concave, following the convexity of the ventral valve.

Surface marked by fine rounded striæ, which both bifurcate and increase by interstitial addition. From six to seven striæ occupy the space of one line, and the intervals between them are not only narrower than the width of the ribs themselves, but often have the character, especially in partially exfoliated specimens, rather of rows of elongated pits than of distinct grooves.

This species is very closely allied to *C. hemispherica* in its form and general character. It is readily distinguished from the latter by its much more numerous and finer striæ.

Locality and Formation.—Not uncommon in the Corniferous Limestone of Port Colborne.

92.—Chonetes acuti-radiata (Hall).

Strophomena acuti-radiata (Hall), Geol. Report, 4th Dist., New York, p. 171,
Chonetes acuti-radiata (Hall), Tenth Report on the State Cabinet, p. 117.
Chonetes acuti-radiata (Hall), Pal. N.Y., Vol. IV., Plate XX., Fig. 5.

Shell semi-elliptical, it width along the hinge-line nearly or more than twice as great as its length; cardinal angles produced.

Ventral valve convex, but not excessively so, depressed towards the flattened ears, sometimes abruptly arched or bent downwards from the middle towards the margin, so that the marginal portion of the shell forms nearly a right angle with the umbonal region. Sometimes a slight mesial furrow or depression, extending from the beak to the front margin. Dorsal valve, characters of the area, and interior markings unknown. Surface marked by sub-equal, rounded, or sub-angular radiating ribs, about six in the space of one line, which increase by bifurcation and interstitial addition in proceeding from the beak to the margin. On the cardinal extremities the ribs are faintly marked, or obsolete.

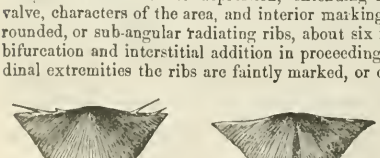


Fig. 25.

a, Ventral valve of *Chonetes acuti-radiata* (Hall), natural size (after Hall); *b*, Ventral valve of another specimen of the same from the Corniferous Limestone of Ontario, natural size.

According to Hall, the hinge-line carries, on each side of the umbo, four or five strong tubular spines, which are obliquely directed outwards; but no traces of these are preserved in the few specimens collected by me. *C. acuti-radiata* is nearly allied to both *C. hemispherica* and *C. arcuata*; but it is distinguished by the disproportionate width of the shell along the hinge-line as compared with the length, the flattening of the cardinal extremities, and the less convexity of the ventral valve. The striation is also finer than it is in *S. hemispherica*.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

Genus Productella (Hall).

"Shells having the general form of *Productus*, but uniformly with a narrow area on each valve, a foramen or callosity on the ventral area, small teeth, and more or less distinct teeth-sockets. The reniform vascular impression, rising from between the anterior and posterior occlusor muscular impressions, curves gently outwards, and following a curvature somewhat parallel with the margin of the shell to below the middle of its length, is abruptly recurved, and the extremity, turned a little backwards, terminates about half way between the margin

and the anterior extremity of the mesial septum. The cardinal process, seen from the inner side, is bilobed, and from the exterior side each of these divisions is usually bilobed.

"These shells differ from *Strophalosia* in the extremely narrow linear cardinal area, greater extension of the hinge-line, more extreme arcuation or ventricosity of the ventral valve in many or most of the species, and especially in the direction and termination of the reniform vascular impressions, which resemble those of *Aulosteges*, and of some species of *Productus*. It differs from *Productus* in the constant presence of an area, hinge-teeth, and sockets." (Hall, Pal. New York, Vol. IV., p. 153).

Productella is considered by Hall as a mere sub-genus of *Producta*, but it seems to me that the articulation of the valves by distinct teeth and the presence of a distinct hinge-area are quite sufficient characters to separate *Productella* generically from *Producta*. Whether *Productella* can be kept apart from *Strophalosia* of King is another matter, the chief characters by which the two are separated being merely questions of degree. In external appearance, however, the shells referred to *Productella* resemble *Producta*, much more nearly than do those referred to *Strophalosia*.

Professor Hall has described many species of *Productella* from the Devonian Rocks of the State of New York, chiefly from the Hamilton and Chemung groups, but also from the Corniferous Limestone. I have only met with a single form of the genus in the Devonian formation of Western Ontario, and this, though exceedingly abundant in the Corniferous Limestone in several localities, is certainly distinct from any of those recorded by Hall. I shall, therefore, describe it as new, under the name of *Productella Eriensis*.

93. Productella Eriensis (Nicholson).

Shell minute, thick, semi-oval or nearly semicircular, the length about one-fourth less than the width as a general rule. Hinge-line as wide as, or wider than, the greatest width of the shell; the cardinal angles rounded, or, more commonly, distinctly auriculate.

Ventral valve exceedingly gibbous and ventricose, strongly and regularly arched from the beak to the front margin, but depressed towards the cardinal angles. Umbo obtuse, prominent, strongly incurved. Area very narrow and difficult to make out. The cast of the ventral valve exhibits a longitudinal slit extending from the beak about one-fourth or one-third of the length of the shell, and indicating that the cavity of the beak was divided by a low mesial partition ("rostral septum"). In front of this slit there is often a horse-shoe-shaped elevation representing the cast of the pit to which the divaricator muscles were attached, but this cannot always be made out. On one or both sides of the mesial slit there is also generally a slighter and shallower groove bounding the umbo laterally; but the general surface of the cast is quite smooth and not pitted.

Dorsal valve depressed-convex, not gibbous, depressed towards the cardinal angles. When partially decorticated, the dorsal valve shows very distinctly from six to eight concentric imbricating lines of growth. In this condition it also exhibits a more or less defined median longitudinal ridge which extends from a small, but constant elongated pit, placed just in front of the umbo, to the front margin—two generally stronger ridges diverging outwards, one on each side of the central line, from the umbo towards the margin. The beak of the dorsal valve is scarcely prominent, whilst there is an extremely narrow linear area, and a small cardinal process.

The interior of the dorsal valve exhibits radiating lines of minute elongated pits, which cover its whole surface, or are most abundant in the central portion of the valve, and diminish as the margin is approached. Besides these, on either side of the middle line are two pairs of deep, slightly curved sulci, which extend from beneath the beak to near the margin. Those of the innermost pair are most constant, and are placed quite close to the central line of the valve. Those of the outer pair are more variable, and there are often two or three radiating grooves on either side in place of only one. Immediately beneath the beak, lastly, are placed two elongated grooves, one on each side, which only diverge slightly from the direction of the hinge-line, and extend only a short distance into the shell. These are apparently dental sockets.

The surface of the ventral valve is rarely preserved, but appears to be quite smooth; the surface of the dorsal valve exhibits faint concentric striæ. No radiating striæ can be made out; nor are there any traces of spines either on the hinge-margin of the ventral valve or upon the surface of either valve.

The width of the hinge-line of the ventral valve is two lines, the length about a line and two thirds, and the height about three quarters of a line to a line. The dimensions of the dorsal valve are the same, except that the height is much less. Hardly any departure from these measurements can be observed, even amongst a large number of specimens, but a few individuals are very slightly larger, and a good many have the proportion of the length to the breadth slightly less, owing to the greater extension of the cardinal angles.

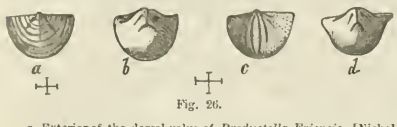


Fig. 26.

a, Exterior of the dorsal valve of *Productella Eriensis*, [Nicholson] partially exfoliated, enlarged; *b*, cast of the ventral valve of a rather larger individual of the same, enlarged; *c*, interior of the dorsal valve of the same, enlarged; *d*, cast of the ventral valve of an individual with unusually extended ears, enlarged. All from the Corniferous Formation.

Amongst the numerous species of *Productella* described by Professor Hall from the Devonian Rocks of the State of New York, there are only two, viz., *P. subaculeata* and *P. Tullia*, which have the dorsal valve convex, all the others being concavo-convex. From these, however, as indeed from all the rest, *Productella Eriensis* is readily distinguished by the total absence of spines, and by the internal characters of both valves. There may, in fact, be some doubt as to the reference of this form to *Productella* at all, and for the positive decision of this doubt our materials are unfortunately insufficient; since, though I have examined some hundreds of specimens, I have not succeeded in finding one single example in which the characters of the hinge-line and areas are satisfactorily shown. Still the ventral valve, in its great gibbosity, in its extended hinge-line, and its produced and depressed ears, is singularly Productoid; and the presence of distinct areas in each valve, and the fact that the valves are articulated by teeth and sockets, would remove the species from *Productа*, and would seem to warrant its reference to *Productella*. The muscular impressions in the ventral valve, unluckily, cannot be made out, and consequently no help can be derived from this source; whilst the interior of the dorsal valve is certainly unlike that of the typical *Productella*, and in some respects approaches *Leptæna*.

There remain two well known Devonian Brachiopods to which at first sight the present form bears a far from slight resemblance, viz., the *Spirifera Urii* of Fleming, and the *Spirifera* (*Ambocœlia*) *umbonata* of Conrad, and it may therefore be as well to indicate the points by which our species is distinguished.

Spirifera Urii (Fleming), is a small suborbicular shell with a very convex and gibbous ventral valve, a prominent and incurved umbo, and a semi-circular flat or slightly convex dorsal valve. The hinge-line, however, is shorter than the greatest width of the shell; the cardinal angles are rounded; the dorsal valve has a shallow mesial furrow which commences near the beak and extends to the front; the ventral valve has a longitudinal furrow commencing at the extremity of the beak and extending to the front; and there is a sufficiently conspicuous area. These characters fully distinguish *Spirifera Urii* from *Productella Eriensis*.

Ambocœlia umbonata (Conrad), [*Orthis umbona*, Conrad, and *Orthis nucleus*, Hall,] is also a small semi-circular Brachiopod, which is very nearly related to *Spirifera Urii*. It presents a superficial resemblance to *Productella Eriensis*, owing to its gibbous ventral valve, and comparatively wide and straight hinge line. It is however, readily distinguished by its very elevated umbo, the existence of a mesial sinus in the ventral valve extending from the beak to the front of the shell, and the presence of a comparatively large and high area, which extends "conspicuously to the cardinal extremities." The surface also is marked by fine radiating and concentric striæ.

Locality and Formation.—Very abundant in certain beds of the Corniferous Limestone at Port Colborne and Hagersville.

Genus ATRYPA (Dalman).

Shell impunctate and fibrous; surface usually ribbed and often furnished with imbricating lines of growth often produced into foliaceous expansions; valves articulated by teeth and sockets; the ventral valve often depressed in front, with or without a mesial sinus, its beak incurved and perforated at the apex by a minute foramen, which is sometimes bounded in front by a deltidium. Dorsal valve convex and often very ventricose, with or without a

mesial fold; the hinge-plate divided, and supporting two large conical spires which are directed into the hollow of the dorsal valve.

Two species of this genus, viz., *A. reticularis* (Linn.), and *Atrypa spinosa* (Hall), (if, indeed, the latter is truly distinct from the former) are known to me as occurring in the Corniferous and Hamilton Formations of Western Ontario.

94. Atrypa reticularis (Linnæus).

Anomia reticularis (Linnæus), *Syst. Nat.*, Ed. XII., p. 1132.
Atrypa reticularis (Dalman), *Vet. Ac. Handl.*, Pl. IV., fig. 2.
Terebratula prisca (Von Buch), *Ueber Terebratula*, p. 71.
Terebratula (*Atrypa*) *prisca* (Phillips), *Pal. Foss. of Cornwall*, &c., Pl. XXXIII., fig. 144.
Spirigerina reticularis (D'Orbigny), *Prodr. de Paléont.*, Vol. I., p. 99.
Atrypa reticularis (Davidson). *British Foss. Brachiopoda, Introduction*, Pl. VII., figs. 87–93, and Part VI, p. 53.
Spirigerina reticularis (McCoy), *Brit. Pal. Foss.*, p. 379.
Atrypa reticularis (Hall), *Pal. N. Y.*, Vol. III., Pl. XLII., fig. 1, and Vol. IV., Pls. LI.,–LIII., A.
Atrypa reticularis (Billings), *Canadian Journal, New Series*, Vol. VII., p. 264, figs. 84–87.

(The above list comprises only the most important of the numerous synonyms of this persistent and cosmopolitan species).

Shell exceedingly variable, both in form and dimensions; usually oblong-ovate, with the widest portion of the shell a little below the hinge-line. Ventral valve usually moderately convex in the vicinity of the beak, flattened towards the sides, and markedly depressed in front, with occasionally a broad but shallow sinus towards the front margin. At other times the anterior depression and sinus are inconspicuous. The beak of the ventral valve small, incurved, and so appressed to the dorsal beak as to conceal the minute foramen by which it is perforated. Dorsal valve always convex and uniformly more so than the ventral valve, though sometimes only slightly so; usually very gibbous, but becoming slightly concave towards the rounded cardinal angles, and for the most part without a defined fold corresponding with the sinus in the ventral valve.

Surface covered with small radiating rounded ribs, generally two or three in the width of a line, increasing by bifurcation and interstitial addition in proceeding from the beaks to the front margin. The radiating ribs are crossed by numerous concentric lines of growth, which usually form distinctly elevated or produced and squamose lines, and which, near the margin, are sufficiently close to give the ribs a characteristic nodose appearance.

In the interior of the ventral valve is a broad mesial spoon-shaped depression, which gradually grows shallower in proceeding from the beak to the margin, and which is bounded by two well-defined semicircular ridges. This gives origin chiefly to the divaricator muscles, and gives rise to a corresponding elevation, bounded by two semicircular depressions in the cast of the valve. The interior of the dorsal valve is chiefly occupied by the greatly developed spiral supports of the arms.

Atrypa reticularis ranges from the middle of the Silurian series to the summit of the Devonian, and is a well-known shell both in Europe and North America. In Western Ontario it occurs plentifully both in the Corniferous Limestone and the Hamilton Group. As a rule, the Corniferous examples are of larger size, and have more gibbous dorsal valves than those from the Hamilton series. An average Hamilton specimen has a greatest width of ten lines, its length being the same, and its height being five lines. An average specimen from the Corniferous has a greatest width of thirteen lines. A larger specimen from the same formation, with a more gibbous dorsal valve, has a width of fourteen lines, a length of eighteen lines, and a height of thirteen lines.

Locality and Formation.—Corniferous Limestone of Port Colborne, Ridgeway, Hagersville, &c. Hamilton Group of Widder, and Bartlett's Mills, near Arkona, in the Township of Bosanquet.

95. Atrypa spinosa (Hall).

Atrypa spinosa (Hall), Report 4th, Geol. Dist. New York, p. 200, Figs. 1 and 2.
Atrypa dumosa (Hall), ibid, p. 271, Fig. 1.
Atrypa spinosa (Hall), Pal. N.Y., Vol. IV., Pl. LIII. A., Figs. 1-14, 18, 24, 25.
(Compare the *Atrypa aspera* or *Atrypa reticularis*, var, *aspera* of Dalman, Phillips, McCoy and Davidson. Compare also the *Atrypa squamosa* of Sowerby.)

This species in form and in all its general characters is identical with *Atrypa reticularis*, (Linn.), but its surface ornamentation is peculiar and distinctive. The surface is "marked by strong, rounded, radiating costæ, bifurcating at unequal intervals, which are much stronger in the middle of the valve, and become obsolete or appear as gentle undulations towards the cardinal angles. In the middle of the valves there are about seven or eight of these costæ in the space of half an inch. The shell is also marked by strong concentric lamellæ, which are often about a line apart. In perfect shells these lamellæ, at the crossings of the costæ, are produced into tubular spines, which when worn off, leave the ordinary lamellose surface. The spaces between the lamellæ are marked by fine thread-like striæ." (Hall, Pal. N.Y., Vol. IV., p. 322).

I have only seen two specimens from the Corniferous Limestone exhibiting the above characters, but these are well marked. I agree with Hall in thinking that the characters of this shell are sufficiently distinct to entitle it to specific distinction; but if it should prove, as is probable, to be identical with the *Atrypa aspera* of European authorities, the latter name has the priority.

Locality and formation.—Rare in the Corniferous Limestone of Hagersville.

Genus Spirifera (Sowerby).

Shell-structure fibrous and impunctate; form very variable, but typically more or less three-sided or quadrate, sometimes oval or sub-circular. Hinge-line straight, mostly as long as or longer than the greatest width of the shell, sometimes shorter. The cardinal angles sometimes obtusely rounded, more commonly produced or extended, sometimes greatly so. Surface usually with radiating ribs, or smooth, or striated. Generally an elevated fold in one valve and a corresponding sinus on the other. Valves articulated by teeth and sockets; the ventral valve the larger, with a more or less prominent beak, a well-marked area, and a triangular foramen which is sometimes closed by a pseudo-deltidium. Dorsal valve with a narrow area and a wide triangular foramen. Interior more or less occupied by two spirally-rolled lamellæ, forming two cones, the apices of which are directed towards the cardinal angles.

A large number of species of *Spirifera* have been described from the Devonian Rocks of North America. With the exception, however, of the extraordinarily abundant *S. mucronata*, our collections of the species of this genus are very imperfect. I have only been able to satisfactorily identify *S. varicosa*, *S duodenaria*, *S. raricosta*, *S. fimbriata*, and *S. mucronata*, —the last from the Hamilton group, and the others from the Corniferous Limestone.

96. Spirifera mucronata (Conrad).

Delthyris mucronata (Conrad), Ann. Report on the Geology of New York, p. 54.
Delthyris mucronata (Hall), Geol. Report, 4th District New York, p. 198.
Spirifera mucronata (Billings), Canadian Journal, New Series, Vol. VI., p. 254, figs. 59–62.

Shell semi-circular or semi-oval, usually sub-trigonal or triangular, the cardinal angles sometimes truncated, but more commonly acute and extended, often produced into long mucronate extensions. In a few instances, the hinge-line is very little longer than the greatest width of the shell below, but it is generally twice or thrice the length of the shell measured from the beak to the front margin, and occasionally four, five, or six times as great. The sides of the shell are straight, or curved slightly, and the front margin is straight or concave.

The ventral valve is more convex than the dorsal, though sometimes only slightly so, with a small incurved beak, and a narrow linear area, the height of which, when most

developed, is only from half a line to three quarters of a line, and is often less. Commencing at the beak and extending to the front of the ventral valve is a well-defined mesial sinus, which is usually shallow and rounded, and is bounded laterally by plications stronger than the rest.

Dorsal valve moderately convex, not so convex as the ventral valve, its beak incurved, but not in contact with that of the ventral valve, its area extremely narrow and linear. Corresponding with the sinus of the ventral valve, there is a prominent mesial fold extending from the beak to the front margin.

Surface marked by sub-angular radiating ribs or plications, usually from eight to twelve on each side of mesial fold and sinus, the outermost not reaching the beak, and the cardinal angles being free from them. The plications are crossed by numerous imbricating zig-zag concentric striæ, which become very much crowded together as the margin of the shell is approached, and which, close to the margin, are often interrupted by stronger lines of growth.

The dimensions and form of *Spirifera mucronata* are excessively variable—so much so that the extreme terms of the series have all the appearance of being distinct species. The following gives the form and measurements of the leading varieties of this species as seen in the Hamilton Formation of Ontario, where it is a wonderfully abundant species, and is found in a state of beautiful preservation :—

a. A semi-circular, and very gibbous form, with the cardinal angles acute, but hardly produced, width of hinge-line one inch; length eight lines; height seven lines.

b. A moderately convex form, with the cardinal angles moderately but not excessively produced; the general figure of the shell becoming trigonal. Width at hinge-line one inch and seven lines; length, eleven lines; thickness, seven lines. This may be regarded as the normal form of the species.

c. A form upon the whole resembling the preceding in outline, but with straighter sides, so that the shell is of a regular triangular shape, the apex of the triangle being truncated at the mesial sinus and fold. The shell is also much thinner owing to the smaller convexity of the valves, and especially of the dorsal valve, which is gently arched near the umbo, but is more or less abruptly reflected all round the margin at about two-thirds of its length from the beak. The cardinal angles are also more extended, increasing the disproportion between the width and length. Width at hinge-line, twenty-two lines; length, nine lines; height, only four lines. This form occurs not uncommonly in the railway-cutting at Widder, and can be traced by insensible gradations into the preceding, just as that graduates into the form first described.

d. Lastly, a form in which the cardinal angles of the shell are immensely produced, the total width at the hinge-line thus coming to be three, four, five, or even six times as great as the length at the beaks. There are, also, from fifteen to twenty plications on either side of the mesial fold and sinus. Width at hinge-line in a small specimen twenty-two lines; length, seven lines; height, three lines and a quarter. Width at hinge-line in a fully-grown specimen three inches; length, six lines; height apparently between four and five lines.

Locality and Formation.—Very abundant and beautifully preserved in the decomposed shales of the Hamilton group, on the line of the Grand Trunk Railway, near Widder Station, where only the first three of the varieties here described are known to occur. Also, common in the calcareous or calcareo-arenaceous beds of the same formation at Bartlett's Mills, near Arkona, in the Township of Bosanquet, where the extremely mucronate variety is the chief, or only, one to occur. Also, in the Corniferous Limestone of Port Colborne and Ridgeway.

97. Spirifera varicosa (Hall).

Spirifer varicosus (Hall), Tenth Report on the State Cabinet, p. 130.

Spirifera varicosa (Billings), *Canadian Journal*, New Series, Vol. VI., p. 255, Figs. 63, 64.

Spirifera varicosa (Hall), *Pal. New York*, Vol. IV., Plate XXXI., Figs. 1–4.

This species is very closely allied to *Spirifera mucronata*, with which it agrees in its general form and its surface characters. The chief point by which *S. varicosa* is distinguished is the comparatively great height of the ventral area, and the prominence of the beak of the ventral valve. Thus in *S. mucronata*, the ventral area rarely exceeds half a line in height, whilst in *S. varicosa* it may have a height of as much as two lines and a half. The latter species is also in

general a smaller species than the former. I have only seen a few detached valves of this specie[8] in the Corniferous Limestone.

Locality and Formation.—Corniferous Limestone of Port Colborne and Hagersville.

98. Spirifera duodenaria (Hall).

Delthyris duodenaria (Hall), Geol. Report, 4th Dist., New York, p. 171.

Spirifer duodenaria (Hall), Catalogue in Report on State Cabinet.

Spirifera duodenaria (Billings), *Canadian Journal*, New Series, Vol. VI., p. 256, Figs. 65–67.

Spirifera duodenaria (Hall), *Pal. New York*, Vol,, IV., p. 189, Plate XXVII., Figs. 13–16; Plate XXVIII. Figs. 24–33.

Shell semi-circular, or sub-triangular, the hinge-line equal to the greatest width of the shell; the cardinal angles rounded or acute, rarely pointed. Ventral valve slightly more convex than the dorsal, depressed towards the cardinal extremites, with a prominent beak, a narrow area, and a mesial sinus of moderate width and depth. Dorsal valve moderately convex, with a narrow and prominent mesial fold corresponding with the ventral sinus, its area linear. Surface exhibiting six or seven strong rounded simple ribs on each side of the mesial fold and sinus. The ribs are broad and are separated by rounded intervals, and they decrease in size in proceeding from the middle line towards the cardinal extremities.

Most examples show a completely smooth surface, but the shell, in perfect examples, is marked by "lamellose concentric striæ, giving a papillose or sub-fimbriated aspect at their junction." (Hall).

Spirifera duodenaria is not uncommon in the Corniferous Limestone of Western Ontario, and is usually readily recognised by its large rounded ribs and generally smooth surface. It varies a good deal in its dimensions, average specimens having a width of eight or ten lines along the hinge-line, and a length of five or six lines.

Locality and Formation.—Corniferous Limestone of Port Colborne, Ridgeway, Hagersville, &c.

99. Spirifera raricosta (Conrad).

Delthyris raricosta (Conrad). *Jour. Acad. Nat. Sci. of Philadelphia*, Vol. VIII., p 262, Pl. 14, Fig. 18.

Delthyris undulatus (Vanuxem), *Geol. Report, Third Dist. New York*, p. 132, Fig. 3.

Spirifera raricosta (Billings), *Canadian Journal*, New Series, Vol. VI., p. 258, Figs. 71–73.

Spirifera raricosta (Hall), *Pal. N. Y.*, Vol. IV., Pl. XXVII., Figs. 30–34, Pl. XXX., Figs. 1–9.

Having only obtained a few imperfect specimens of this fine species, I shall content myself with simply noting its existence, without giving its description.

Spirifera raricosta is at once distingaished from the other *Spirifera* of the Corniferous Limestone by its possession of from two to four strong, prominent, rounded or sub-angular plications on each side of the mesial fold and sinus. The ventral valve also is very gibbous above, and the beak much elevated, whilst the cardinal angles are rounded.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

100. Spirifera fimbriata (Conrad).

Delthyris fimbriata (Conrad), *Journ. Acad. Nat. Sci. of Philadelphia*, Vol. VIII., p. 263.

Spirifera fimbriata (Billings), *Canadian Journal*, New Series, Vol. VI., p. 257, Figs. 68–70.

Spirifera fimbriata (Hall). *Pal. N. Y.*, Vol. IV., Pl. XXXIII., Figs. 1–21.

Shell transversely oval, bi-convex, the hinge-line shorter than the greatest width of the shell, and the cardinal angles rounded and not produced. Ventral valve gibbous in the upper half, the beak small but prominent, incurved over the area, the latter being high and concave. The sinus is well-defined, sometimes rounded sometimes angular, and extending from the beak to the front of the shell, with a variable number (usually three or four, but sometimes eight or nine) of low and obscure plications on each side. Dorsal valve moderately gibbous,

with a minute beak and a rounded, mesial fold, and a narrow sub-linear area. Plications obscure, becoming obsolete towards the cardinal angles, and dying away in the neighbourhood of the hinge-line. Surface marked with shallow concentric furrows separated by interspaces which are studded with elongated tubercles. There are from three to four or more furrows in the space of two lines, and from five to eight elongated tubercles in the space of one line transversely. In casts of the exterior, the elongated tubercles are represented by narrow elongated pits arranged in concentric bands.

Spirifera fimbriata not uncommonly attains a width of an inch and three quarters by a length of thirteen lines, but average examples are smaller than this. It is readily recognised by its comparatively short hinge-line, its rounded cardinal angles, its obscure plication, and its surface ornamentation.

Locality and Formation.—Corniferous Limestone of Port Colborne. Also, according to Mr. Billings, in the Hamilton Shales of Bosanquet.

Genus CYRTINA (Davidson).

Shell small and resembling that of *Spirifera* in its general form. Shell-structure punctate. Valves very unequal; the ventral valve elevated and pyramidal in shape; the area very high, with a long narrow foramen, closed by a pseudo-deltidium; the dental lamellæ converging from the margins of the foramen, and uniting to form a mesial plate or septum, which divides the cavity of the ventral valve into two compartments. Dorsal valve nearly flat or moderately convex. Spires well-developed, and resembling those of *Spirifera* and *Spiriferina*.

The genus *Cyrtina* is closely allied to *Cyrtia* (Dalman), and *Spiriferina* (D'Orbigny), and has also near relationship with the genus *Spirifera*. Two species have been recorded by Mr. Billings, as occurring in the Devonian Rocks of Western Ontario, namely *Cyrtina rostrata* (Hall), from the Corniferous Limestone, and *C. Hamiltonensis* (Hall), from the Hamilton group. The latter is a common species, but the few examples of *Cyrtina*, which I have seen from the Corniferous Limestone are too imperfect to admit of specific determination.

101. CYRTINA HAMILTONENSIS (Hall).

Cyrtia Hamiltonensis (Hall), Tenth Report on the State Cabinet, p. 166.

Cyrtia Hamiltonensis (Billings), *Canadian Journal*, New Series, Vol. VI., p. 262. Figs. 80–82.

Cyrtina Hamiltonensis (Hall), *Pal. New York*, Vol. IV., p. 268. Plate XXVII., Figs. 1–4, and Plate XLIV., Figs. 26–33, and 38–52.

"Shell more or less triangular or sub-pyramidal; hinge-line equal to the greatest width of the shell; proportions of length, breadth, and height variable, but frequently the width is equal to the length of the ventral valve, and the height of area is equal to the length of the dorsal valve; surface plicate. Ventral valve quadrilateral in outline, obliquely sub-pyramidal, most prominent at the beak, which is very variable in elevation and straight or a little arched over the area, and not unfrequently attenuate and distorted or turned to one side; mesial sinus wide and strongly defined, rounded or sub-angular in the bottom; area variable, large and elevated, plane or arcuate in different degrees, with the lateral margins angular, distinctly striate in both directions; fissure narrow, closed by a convex pseudo-deltidium, which is perforated above by an oval or narrowly ovate foramen. Dorsal valve depressed, convex, with a broad, more or less prominent mesial fold, which is bounded by broader furrows than those between the plications, and is sometimes extremely elevated in front; the beak scarcely rising above the hinge-line; area narrow, linear, but quite distinct; surface marked by about six to eight (rarely one or two more) simple rounded plications on either side of the mesial fold and sinus, and these are crossed by very fine concentric lines of growth, which at intervals became crowded and sub-imbricate, especially towards the margins of older shells. The finer surface-marking is minutely granulose or papillose, and the shell-structure is distinctly punctate. In some of the larger individuals there is an obscure elevation on each slope of the sinus, resembling an obsolete plication. The longitudinal median septum extends for more than half the length of the ventral valve, and is continued into the cavity beneath the pseudo-deltidium. These features are shown in casts and in transverse sections of the valve.

The dorsal valve shows a double or bilobed cardinal process, with the strong crural bases supporting spiral arms which are directed into the two compartments of the ventral valve, and making numerous turns, terminate in the rostral part of the shell." (Hall, *Pal. New York*, Vol. IV., p. 268).

I have little to add to the above detailed description of this pretty little Brachiopod by Professor Hall. *Cyrtina Hamiltonensis* occurs commonly, and in a state of beautiful preservation, in the Hamilton Formation of Ontario, and I have also seen casts apparently belonging to this species from the Corniferous Limestone. Many of the Hamilton specimens have a flat area without an incurved beak, and thus come to agree with Hall's *Cyrtina Hamiltonensis* var. *recta*; but I am of opinion that this variety is by no means sufficiently distinct to deserve a separate designation. In fact there appear to be three chief variations as regards the above mentioned points within the limits of this mutable species, and all three are connected together by transitional forms. In one of these, the area is nearly or quite plane, and is directed forwards almost or quite at right angles to the plane of the dorsal valve or hinge-line, whilst the beak is very slightly elevated, and little or not at all incurved. In these forms the thickness of the shell (measured at right angles to the hinge-line, instead of from the hinge-line to the beak) is proportionately very great. In other forms, the hinge-area is moderately elevated and forms a very obtuse angle with the plane of the dorsal valve, whilst the beak is moderately prominent and is incurved. These forms may be regarded as being the normal form of the species. In other examples, again, which are otherwise undistinguishable from the preceding, the beak of the ventral valve is extraordinarily elevated and prominent, and is markedly incurved; whilst the plane of the arcuate area approximates to the plane of the dorsal valve and forms with it an acute angle. The result of this is that the thickness of the shell measured at right angles to the hinge-line becomes very much smaller than in the preceding forms. The last mentioned form appears at first sight to be a distinct species from those with a flat area directed perpendicularly to the plane of the dorsal valve, but I am satisfied that all the above mentioned varieties may be safely brought under the limits of a single species.

The dimensions of this species vary considerably. In an adult example of the variety in which the area is flat and perpendicular to the plane of the dorsal valve, the width of the hinge-line is ten lines, the length of the dorsal valve is five lines, the length of the ventral valve is eight lines, the height of the area is five lines, and the thickness of the shell measured at right angles to the hinge-line is also five lines, and is thus equal to the height of the area. In another also fully-grown example, with a very oblique area, the width of the hinge-line is nine lines (the cardinal angles being much more rounded than in the preceding), the length of the dorsal valve is six lines, the length of the ventral valve is ten lines, the height of the much curved area is nearly four lines, and the thickness of the shell at right angles to the hinge-line is only three lines and a half, and is thus much less as compared with the size of the shell than in the preceding.

Small examples as well as large are not uncommon, showing the variations in the plane of the area here described, proving that the latter are not due to variations of age.

Locality and Formation.—Common in the Hamilton Shales of Widder, in the Township of Bosanquet.

Genus SPIRIGERA (D'Orbigny).

Shell variable in form, with convex valves which are articulated by teeth and sockets; beak of the ventral valve short and incurved, and truncated by a small foramen, which is in contact with the beak of the dorsal valve, or is separated from it by a deltidium of two pieces; a mesial fold and sinus present or absent; surface smooth or striated, with numerous concentric lines of growth; dorsal valve without any mesial septum, but with spiral cones, the extremities of which are directed outwards towards the lateral margins of the shell.

It seems unnecessary to enter here into the controversy which has been carried on as to the genera *Spirigera*, *Athyris*, *Merista*, and *Meristella*, or to attempt to decide which of those divisions can be retained, and which must be rejected. It is sufficient to state that I shall here adopt the arrangement proposed by Mr. Davidson, and followed by Mr. Billings, in which *Spirigera* is made to include shells without a mesial septum and with the beak of the ventral valve perforated by a conspicuous foramen, whilst *Athyris* includes shells with an imperforate beak (in the adult state at any rate), and generally with a mesial septum. Adopting this

arrangement, some of the shells referred by Hall to *Meristella* will be considered here under the head of *Spirigera*, whilst others will come under *Athyris*.

The species of *Spirigera*, as here understood, which have come under my notice in the Devonian Rocks of Ontario, are three in number, viz.: *S. spiriferoides* (= *S. concentrica ?*), *S. setula*, and *S. rostrata*.

102. Spirigera spiriferoides (Eaton).

Terebratula spiriferoides (Eaton), *American Journal of Science*, Vol XXI., p. 137.
Atrypa concentrica (Conrad), Annual Report on Pal. New York. p. 111.
Atrypa concentrica (Hall), Report Fourth Dist., New York, p. 198, Fig. 5.
Spirigera spiriferoides (Hall), Tenth Report on the State Cabinet, p. 153.
Spirigera concentrica (Billings), *Canadian Journal*, New Series, Vol. VI., p. 145, Figs. 52, and 54–57.
Athyris spiriferoides (Hall), Pal. New York, Vol. IV. Plate XLVI, Figs. 5–31.
[Compare *Spirigera* (*Athyris*) *concentrica* of European palæontologists].

Shell transversely sub-oval, sub-orbicular, or sub-quadrate, with its greatest width near the middle, slightly truncated anteriorly, or more commonly having the front margin produced into a tongue-shaped rounded projection. Hinge-line very short, the cardinal extremities rounded off. Both valves convex, but not excessively so; the ventral valve with a shallow mesial sinus which dies out towards the beak; the dorsal valve with a corresponding mesial fold. The beak of the ventral valve incurved, and perforated by a small but conspicuous foramen. Dorsal valve more convex than the ventral, with a small rounded beak which is concealed beneath that of the ventral valve. Surface marked by close-set concentric lines of growth, which are often produced into imbricated thin lamellæ, and which are always more crowded towards the front margin of the shell.

The interior of the ventral valve exhibits two strong dental lamellæ, extending to the base of the rostral cavity, where the muscular impressions commence. The interior of the dorsal valve exhibits a strong cardinal process, with elevated socket-margins behind, and a narrow elliptical muscular impression which is "divided by a low median crest" (Hall). The spires show about fifteen turns each.

Whether *Spirigera spiriferoides* (Eaton) is identical with *Spirigera* (*Athyris*) *concentrica* (Bronn,) from the Devonian Rocks of Europe or not, is a question which I have no means of deciding, not having at present access to authentic specimens of the latter. I should, however, be strongly inclined to think that the two forms, as believed by De Verneuil, Sharpe, Billings, and others, are in reality identical; though, in deference to the views of Professor Hall, I have retained our form as a separate species. In any case, even supposing the two to be the same, the name of *spiriferoides* will have to be retained, as having the priority over that of *concentrica*.

S. spiriferoides is of rare occurrence in the Corniferous Limestone, but is found commonly in the Hamilton group. Our specimens present no special peculiarity except that, without exception, so far as I have seen, they are smaller than those from the same formations in the State of New York. Thus, the largest specimen in our collection has only a width of nine lines, and a length of eight lines; whereas specimens from New York sometimes have a width of nearly an inch and three-quarters, and a length of an inch and a half or more.

Locality and Formation.—Corniferous Limestone, Hagersville; Hamilton Group, Widder, and Bartlett's Mills near Arkona, in the Township of Bosanquet.

103. Spirigera rostrata (Hall).

Atrypa rostrata (Hall), Report on the Fourth Geol. Dist. New York. p. 202, Fig. 3.
Athyris (?) rostrata (Billings), *Canadian Journal*, New Series, Vol. V., p. 281, Figs. 43–44.
Meristella rostrata (Hall), *Pal. New York*, Vol. IV., Plate L, Figs. 13–17.

Shell small, ovate or sub-trigonal, sometimes sub attenuate above. Both valves convex, the ventral scarcely more so than the dorsal. Ventral valve most convex above the middle, usually with a shallow rounded mesial sinus in front, which, however, is sometimes almost obsolete; the beak prominent, incurved over that of the dorsal valve, but not in contact with it, and perforated by a conspicuous foramen. Dorsal valve regularly convex, sometimes with

an obsure mesial elevation in front, corresponding with the sinus of the ventral valve; the beak incurved, and buried beneath that of the ventral valve. Surface with numerous very delicate concentric lines of growth, which become crowded together and conspicuous towards the front margin.

This species is somewhat variable in shape; some specimens have their greatest width a little in front of the middle of the shell; but others (and these are perhaps the commonest) have the greatest width at about two-thirds of the distance from the beak, or even nearer the front than this, the shell thus assuming a sub-triangular form. Average specimens have a length of six lines, a width of five lines, and a depth of about three lines.

In the most perfect specimens I have seen, the foramen is large and conspicuous, and is perforated in the summit of the beak of the ventral valve, so as to look upwards.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne. Hamilton formation of Widder.

104. Spirigera scitula (Hall).

Atrypa scitula (Hall), Report on the Fourth Geol. Dist. New York, p. 171, Fig. 1.

Athyris (?) scitula (Billings), *Canadian Journal*, New Series, Vol. V., p. 278, Figs. 35, 36 (*not. exclusis*).

Meristella scitula (Hall), *Pal. New York*, Vol. IV., Plate XLVII., Figs. 34-38.

Shell ovate, both valves convex, the ventral valve the most so, somewhat compressed towards the front. Ventral valve with a prominent beak, which is incurved over that of the dorsal valve, and is perforated by a conspicuous foramen. Dorsal valve most convex above the middle, depressed towards the front, with a small beak, which is buried beneath that of the dorsal valve. Surface marked by fine concentric striæ. Length of an average example one inch; width, nine lines; depth, six lines.

I have only one well preserved example of this species, and am therefore, not prepared to discuss its affinities. Hall's species certainly seems to me to be identical in part with that figured by Mr. Billings. The *Charionella circe* of Mr. Billings appears to me to be quite distinct, though it is asserted by Hall to be identical with his *Meristella scitula*.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

Genus Athyris (McCoy).

Shell variable in shape, the valves unequally convex, with or without a mesial sinus and fold, articulated by teeth and sockets. Beak of the ventral valve incurved, usually overlanging and in contact with the beak of the dorsal valve, not perforated by a foramen, or with the foramen concealed when fully grown. "In the interior of larger or ventral valve the dental plates are fixed to and along the sides of a longitudinal prominence or convex arch-shaped plate, which extends to less than a third of the length of the shell, with its narrow end fitting into the extremity of the beak, and its lateral diverging edges to the bottom of the valve. . . . . The interior of the smaller or dorsal valve is partly divided by a large, deep longitudinal septum, which extends from the extremity of the umbo to about two thirds of the length of the shell, supporting at its origin the hinge-plate, which is divided into two portions by a narrow gradually widening channel; to the socket ridges are affixed the spiral cones, the extremities of which are directed towards the lateral margin of the shell; on either side of the septum are seen two muscular scars formed by the adductor" (Davidson, *British Fossil Brachiopoda, General Introduction*, p. 85.)

Accepting the above definition of the genus *Athyris*, there are only two forms which have come under my notice in the Devonian Rocks of Ontario, which appear to be referable to this genus, and the position of one of these somewhat doubtful. The forms in question are *Athyris nasuta* (Conrad sp. = *A. clara*, Billings), and *A. Maia* (Billings), of which the last is referred by Hall to the genus *Spirifera*.

105. Athyris nasuta (Conrad).

Atrypa nasuta (Conrad), Ann. Report on the Palæontology of New York, p. 18.

Meristella nasuta (Hall), Thirteenth Report on the State Cabinet, p. 93.

Meristella elissa (Hall), Fourteenth Report on the State Cabinet, p. 100.

Athyris clara (Billings), *Canadian Journal*, New Series, Vol. V. p. 274, Figs. 29-32.
Meristella nasuta (Hall), *Pal. New York*, Vol. IV., Plate XLVIII., Figs. 1-25.

"Nearly smooth, ovate or sub-rhomboidal; greatest width, about the middle; a short linguiform projection in the middle of the front margin; both valves convex; ventral valve the larger, with its beak strongly incurved. Length from one to two inches; width equal to, a little less, or a little greater, than the length. The ordinary size is about one inch and a half in length.

"The ventral valve is strongly and smoothly convex, the outline evenly arched from beak to front, more abruptly curved above than below, the umbo prominent, the beak rather small, neatly rounded at the sides, and closely incurved. The linguiform projection in the middle of the front margin is often a simple extension of a portion of the shell, without a sinus, but occasionally there is either a short, shallow depression, or a narrow rounded mesial fold, which seldom, however, extends towards the beak more than three or four lines. The upper half of the dorsal valve is sometimes evenly convex, but in general an indistinct, more or less broadly rounded carination, can be traced from the umbo along the middle to the front, where it becomes abruptly elevated into a short, prominent, rounded fold, which extends into the linguiform projection. On each side of the median line, this valve is gently convex, and often exhibits a rather flat slope to the lateral margins. The beak is strongly incurved, and appears to be deeply buried in the cavity beneath the umbo of the ventral valve.

"If a line be drawn across the shell at mid-length, and another at one-fourth the length from the front, the greatest width will be found to range between the two. Many of the specimens are obtusely angular at the sides, and in such the margins above and below the angles are somewhat straight, the upper two sides converging to the beak, and the lower two to the linguiform extension in front, giving to the shell a rhomboidal instead of an ovate outline.

"At first sight, the surface appears to be smooth, with a few concentric squamose lines of growth. On closer examination, numerous indistinct, radiating lines may be seen. Of these there are from two to four in the width of one line, and they sometimes appear to lie beneath the surface of the shell. In very perfect specimens, the surface exhibits fine concentric striæ, from ten to fifteen in the width of one line, and these are most distinct towards the front margin.

"Beneath the beak of the detached ventral valves, there is a wide, triangular foramen, not visible when the valves are united. The inside of the beak is entirely hollowed out into a deep pit or channel, which opens directly into the cavity of the shell. The impressions of the divaricator muscles occupy part of a sub-triangular space, the upper angle of which is situated just where the excavation beneath the beak opens out into the visceral cavity. The lower side of this space is nearly straight, and the two lower angles rounded. The lateral margins of the space are usually sub-parallel in the lower half, while in the upper half they approach each other, and meet above to form the upper angle. In some specimens the space is more nearly triangular, and it would appear, therefore, that its form is a little variable. The length of the space is about one-third the whole length of the ventral valve, and its width at the lower margin a little less than its length. The lower margin is situated a little above a line drawn across the shell at mid-length. The lower three-fourths of the space is striated longitudinally, and divided into two equal portions by an obscure median groove.

"On each side, at the base of the foramen, there is a short, stout tooth. The dental plates below the teeth extend but a short distance into the visceral cavity, when, becoming suddenly much diminished in height, they form a low ridge along the upper margin of the muscular space. The upper part of the muscular space is deeply excavated into the substance of the shell, which is very thick and solid in the rostral half" (Billings).

There is not much to add to the above quoted full description of this common Corniferous species by Mr. Billings; but there are a few points which may be noted. The nasute or linguiform extension of the front of the ventral valve, and the corresponding fold on the dorsal valve, are only fully developed in adult examples. Hence in young examples, the front of the shell may exhibit nothing more than a hardly perceptible undulation. Small specimens are also proportionately more circular. The beak of the ventral valve is imperforate, apparently at all stages of growth; but there is a triangular fissure beneath the beak, which by the incurvation of the beak is entirely closed in the perfect shell, and which can only be seen in the detached valve.

Casts of the interior of the ventral valve of this species are extremely common in the

Corniferous Limestone, and present a very characteristic appearance. The umbonal region of the cast exhibits the filling up of the rostral cavity, in the form of a sub-cylindrical or tongue-shaped projection, which is usually grooved on its upper surface, and which is bounded laterally by the deep fissures left by the dental lamellæ. In front the cast of the rostral cavity passes into a great hump or abrupt prominence formed by the cast of the muscular impression. The umbonal slope of this prominence is smooth, and has a median ridge running into the rostral cast; and the front slope is conspicuously striated with longitudinal striæ, and often divided into two halves by a mesial ridge.

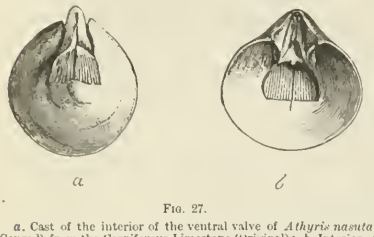


Fig. 27.

a. Cast of the interior of the ventral valve of *Athyris nasuta*, (Conrad), from the Corniferous Limestone (Original); *b*, Interior of the ventral valve of the same (after Billings).

"The interior of the dorsal valve shows a strong cardinal process, with a shallow spoon-shaped depression in the centre, margined by deep teeth sockets. The muscular area is elongate-ovate, broader above, and divided through the centre by a thin elevated septum. . . . The crura apparently bend downwards from near their origin; thence recurving, they follow very closely the contour of the dorsal valve, making thirteen or more turns in an individual of medium size. Spires, slender and simple" (Hall, *Pal. New York*, Vol., IV., p. 301).

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne and Hagersville.

106. Athyris (?) Maia (Billings).

Athyris Maia (Billings), *Canadian Journal*, New Series, Vol. V., p. 276, Figs. 33, 34.
(?) *Spirifera Maia* (Hall), *Pal. New York*, Vol. IV., Plate XLIII., Figs. 6–13.

Shell broadly ovate, or sub-rhomboidal; valves convex, the ventral valve most so. Ventral valve strongly convex, exceedingly gibbous in the umbonal region, the beak prominent and strongly incurved, but not touching the surface of the dorsal valve; a shallow rounded mesial sinus extending from the beak to the front margin, where it is produced into a linguiform extension. Dorsal valve moderately convex, with a small beak, and a rounded mesial fold which sometimes extends to beak or sometimes falls short of this point. Hinge-line short and straight, the cardinal angles rounded. Surface nearly smooth, with a few lines of growth, and in well preserved specimens, numerous fine and close-set concentric striæ.

According to Billings, there exists "a short false area" beneath the beak of the ventral valve, a feature which our specimens do not enable me to confirm, as the space below the incurved beak is generally concealed by adherent matrix.

The dimensions of an individual of medium size are as follows:—Length, one inch and a quarter; greatest width, fourteen lines, at a point a little in front of the middle; depth, ten lines. Larger individuals than the above are of by no means uncommon occurrence.

Hall has described and figured (*loc. cit.*) under the name of *Spirifera Maia*, a shell which he believes to be identical with *Athyris Maia* of Billings, to which it presents a strong resemblance in its general shape. According to Hall, *Spirifera Maia* has a narrow cardinal area, which is sometimes hidden by the beak, whilst there exists a moderate but conspicuous fissure of a subtriangular shape beneath the beak of the ventral valve. Neither of these features are alluded to by Mr. Billings in his description of *Athyris Maia*, nor have I succeeded in detecting either a hinge-area or a fissure in any of the specimens which have come under my own notice. I am disposed to believe, therefore, that the *Spirifera Maia* of Hall is distinct from the present species, a view which is further borne out by the apparently much greater dimensions of the latter; though on this point I can only judge by Professor Hall's figures, and by his statement that the shell of *Spirifera Maia* is "below the medium generic size," which is certainly not true of *Athyris Maia*. At the same time, in the absence of any definite knowledge of the internal characters of *Athyris Maia*, beyond the general statement, by Mr. Billings, that its internal structure resembles that of *A. nasuta*, (=*A. clara*), it is perhaps hardly safe to assert positively that it belongs to the genus *Athyris*.

Locality and Formation.—Corniferous Limestone of St. Mary's (Collected by Mr. Hinde).

Genus Retzia (King).

The typical species of this genus may be considered as in some respects related to the *Rhynchonellidæ*, but more closely to the *Spiriferidæ*, and in particular to the genus *Spirigera*. The shell is in general small, and somewhat similar in form to *Rhynchonella* or to *Terebratula*, from both of which it is distinguished by the possession of calcareous spires. The shell-structure, unlike that of *Spirifera*, is punctate; but there is not an extended hinge-line, and there is either no true area or a small one. The beak of the ventral valve is perforated by a small foramen, and the surface is usually ornamented with radiating striæ or ribs. The affinities of this genus are obscure, and it is uncertain what forms should properly be referred to it. Only one Brachiopod, viz.: *Retzia Eugenia*, (Billings), has been referred to this genus amongst the forms hitherto discovered in the Devonian Rocks of Ontario, and in the absence of any certain knowledge as to its internal structure, it cannot be said that this reference is free from doubt.

107. Retzia (?) Eugenia (Billings).

Retzia Eugenia (Billings), *Canadian Journal*, New Series, Vol. VI., p. 147, Fig. 58.

"Shell small, sub-globular, with from ten to twelve strong angular ribs on each valve. Ventral valve convex, most prominent on the upper half, a slight mesial depression the width of three or four of the ribs in the lower half; beak elevated, incurved, but not in contact with the umbo of the dorsal valve, perforated at the point; a flat solid deltidium or area beneath the aperture. Dorsal valve rather strongly and uniformly convex, most prominent along the middle, where slight indications of a mesial fold are evident; umbo small, rounded; beak buried beneath the lower edge of the deltidium or area of the ventral valve" (Billings).

Average individuals appears to have a length of about four lines, with a width of about the same or slightly less; but larger and smaller examples are not unknown.

I have seen only a few detached valves of this species, and can offer no opinion as to its real affinities. By Professor Hall it is considered, with some doubt, as being identical with his *Trematospira gibbosa* (*Pal. New York*, Vol. IV., p. 272); but it is considered by Mr. Billing to be distinct.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

Genus Leiorhynchus (Hall).

"The shells of this genus are ovate, circular, or transverse, with valves unequally convex, and marked by a median sinus and fold in the ventral and dorsal valves respectively. The surface is plicated by rounded bifurcating plications which are always more conspicuous on the mesial fold and sinus, whilst they often become obsolete on the lateral portions of the shell; concentrically marked by strong lines of growth. Substance of the shell fibrous, usually thin. Valves articulating by teeth and sockets; the apex of the ventral valve perforate at some period of its growth, the lower side being completed by deltidial plates. On the interior of the ventral valve, two short diverging dental lamellæ extend into and are joined to the sides or bottom of the rostral cavity; the muscular impression occupies a narrow triangular or ovate-triangular space, below the dental lamellæ. The dorsal valve has a well defined septum, often reaching below the middle of the valve, and divided above, leaving a triangular or spoon-shaped depression. The hinge-plates are narrow, strong processes, with sockets embracing the teeth of the opposite valve" (Hall, *Pal. New York*, Vol. IV., p. 355).

I am not in the position to pronounce any opinion as to the validity of the genus *Leiorhynchus*, or as to the propriety of separating it from *Rhynchonella*, to which it is certainly most closely allied. In the meantime, I shall accept it for the reception of the following species from the Hamilton Group; several allied species having been described by Professor Hall under this title from the Hamilton and Chemung Formations.

108. Leiorhynchus multicosta (Hall).

Leiorhynchus multicosta (Hall), Thirteenth Report on the State Cabinet, p. 85.
Rhynchonella (?) *Laura* (Billings), *Canadian Journal*, New Series, Vol. V., Figs. 26–28.
Leiorhynchus multicosta (Hall), *Pal. New York*, Vol. IV., Plate LVI., Figs. 26–40.

Shell ovate, the length and greatest width being nearly equal, or the width greater than the length in young or in compressed specimens. The greatest width is placed near the front of the shell, the sides curving gently from the beak for about two-thirds of the length, and then being bent abruptly inwards. Ventral valve convex, most elevated in the umbonal region, curving to the sides, with a broad shallow mesial sinus which is occupied by from three to six plications. Beak of the ventral valve small, incurved, and in contact with the umbo of the dorsal valve, with a minute circular foramen at its apex. Dorsal valve more convex than the ventral, most gibbous a little above the middle, with its central portion elevated into a mesial fold, which corresponds with the ventral sinus, and is occupied by from three to six plications. Beak buried beneath that of the ventral valve. Surface marked with rounded or sub-angular plications, of which those on the mesial fold and sinus bifurcate, whilst all are obscure or obsolete towards the beaks. Concentric striæ and lines of growth are also present.

An apparently average specimen has a length of ten lines, and a greatest width of ten lines and a half, with a height of six lines. A smaller individual has a length of seven lines, a greatest width of seven lines and a half, and a height of three lines and three-quarters.

According to Hall, the dorsal valve possesses a median septum which reaches more than half the length of the shell, and is divided above, so as to leave a triangular pit. There can be no question as to the identity of *Rhynchonella* (?) *Laura* (Billings), with Hall's *Leiorhynchus multicosta*. All the specimens of this species that I have seen, have the greatest width slightly in excess of the length, though Hall considers the two diameters to be normally nearly equal. The species is readily recognised by its general form, its rounded plications, becoming obsolete towards the beak, and not interlocking at the margins of the valves, its mesial fold and sinus, and the perforated beak of the ventral valve.

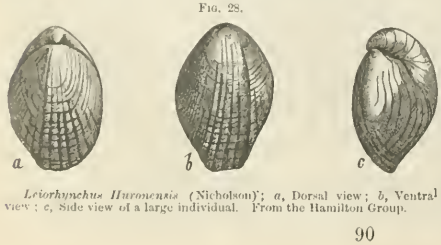
Locality and Formation.—Hamilton Group, Widder, Township of Bosanquet (Collected by Mr. George Jennings Hinde).

109. Leiorhynchus Huronensis (Nicholson).

Shell elongate-ovate, the greatest width being from one-sixth to nearly one fifth less than the length, whilst the greatest width is placed nearly about the middle of the shell. Ventral valve convex, very gibbous in the umbonal region, abruptly curving to the sides, and depressed from about the middle to the front margin of the shell. A very broad and exceedingly shallow mesial sinus, which is obsolete near the beak, but occupies almost the whole front margin of the shell, and supports about five low rounded plications. Beak of the ventral valve large, prominent, and incurved, apparently not perforated by a foramen, and in close contact with the umbo of the dorsal valve. Dorsal valve convex, strongly curved towards the sides, its centre occupied by a broad mesial fold, which corresponds with the ventral sinus, and carries five rounded plications. Margins of the fold and sinus more or less distinctly interlocking. Beak of the dorsal valve buried deeply beneath that of the ventral valve. Surface marked with rounded plications, which are very obscure, except upon the fold and sinus, and which become nearly obsolete in the neighbourhood of the beaks. The plications are crossed with very fine concentric striæ, and with strong and very well marked lines of growth which become close-set and imbricating towards the margin of the valves.

The dimensions of a large individual are :—length, one inch ; greatest width, ten lines ; height, eight lines. A smaller and narrower individual has a length of eleven lines, a greatest width of eight lines, and a height of six lines.

Fig. 28.



Leiorhynchus Huronensis (Nicholson); *a*, Dorsal view; *b*, Ventral view; *c*, Side view of a large individual. From the Hamilton Group.

There is no doubt as to the entire distinctness of this from the preceding, though there may be some question as to its reference to *Leiorhynchus*; since Hall states that the fold and sinus in this genus never interlock, which they certainly do in some examples of this species. In other respects, however, there is a close general resemblance between this and *L. multicosta*, especially as regards the surface-characters, and I do not

think the two species can be generically separated. *L. Huronensis* is distinguished from *L. multicosta* by its much more elongated and contracted form, the greater convexity of its valves in the umbonal region, the much more prominent and strongly incurved beak of the ventral valve, the absence of a foramen, the much greater width and shallowness of the sinus and fold, and the stronger and more crowded lines of growth. I have not seen any example which exhibits the interior.

Locality and Formation.—Shales of the Hamilton Group, Widder, Township of Bosanquet (Collected by Mr. George Jennings Hinde).

Genus Amphigenia (Hall).

"Shell inequivalve, oval, ovoid, or sub-triangular, more or less convex or gibbous, without mesial fold or sinus. Valves articulating by teeth and sockets, without area. The dental lamellæ in the ventral valve conjoined on their dorsal sides, forming an angular trough or pit, which opens exteriorly by a triangular fissure beneath the beak, and in its anterior extension is supported on a central septum. Dorsal valve with a strong thickened cardinal process or hinge-plate, bordered by the teeth sockets, anchylosed to the bottom of the valve and supporting the crura, which extend into the cavity of the shell" (Hall, Pal. N. Y. Vol. IV., p. 382).

In addition to these characters, there is a foramen which extends beneath the hinge-plate of the dorsal valve, and ends in a perforation at the beak, and the shell-structure is distinctly punctate.

Hall has separated the genus *Amphigenia* from *Stricklandinia* (Billings) to include the single species *A. elongata* (= *Pentamerus elongatus*, Vanuxem), upon the ground that this species possesses no area in the ventral valve, with a foramen in the dorsal valve and a punctate shell-structure. On the other hand, the typical species of *Stricklandinia* possess an area in the ventral valve, a smaller angular pit, no foramen in the dorsal valve, and an impunctate and fibrous shell-structure. Without entering further into the controversy which has been carried on as regards this question, it may be said that these differences appear sufficient to entitle *Amphigenia* to be considered as distinct, if not generically, at any rate sub-generically from *Stricklandinia* and *Pentamerus*.

From *Rensselæria*, in spite of great resemblance in external form, and also as regards some points of internal structure, the genus *Amphigenia* is separated by the angular pit made by the conjoined dental lamellæ of the ventral valve, and by apparently having free crura in the dorsal valve without appendages.

The only species of this genus known in Canada, is the *Amphigenia elongata* of the Corniferous Limestone.

110. Amphigenia elongata (Vanuxem).

Pentamerus elongatus (Vanuxem), Report Third Geol. Dist. New York, p. 132.
Meganteris elongatus (Hall), Tenth Report on the State Cabinet, p. 123.
Rensselæria elongata (Hall), *Pal. N. York*, Vol. III, p. 453.
Stricklandinia elongata (Billings), *Canadian Journal*, Vol. VI., p. 267, figs. 91, 92.
Amphigenia elongata (Hall), *Pal. N. Y.*, Vol. IV., p. 383, Pl. LIX.

Shell very variable in form, generally elongate oval, sometimes ovate, the length sometimes nearly twice the width, or the two diameters at other times nearly equal. Sides gently curved, or nearly straight; front pointed, rounded, or sub-truncate; ventral valve convex, in general more so than the dorsal valve, often obtusely carinated centrally in its upper half; the beak incurved over the umbo of the dorsal valve. Dorsal valve less convex as a rule than the ventral, often elevated along the middle line in its upper half, and depressed towards the sides and front. Surface usually smooth, but marked with strong concentric ridges and lines of growth. In perfect specimens, the surface is stated to exhibit regular radiating flattened striæ. Length of a small individual eighteen lines, greatest width ten lines. Larger individuals range from two to as much as four inches in length.

Fig. 29.

Amphigenia elongata (Billings). *a*. Exterior of the ventral valve of a small example; *b*. Interior of the umbonal region of a broken ventral valve showing the trough between the dental lamellæ. Both of the natural size. Corniferous Limestone.

All the examples that I have seen of this species from the Corniferous Limestone are smaller than the average, and appear to be immature, the largest not exceeding an inch and a-half in length. I have seen no example in which radiating striæ are exhibited, but specimens exhibiting the interior of the ventral valve with the angular trough between the dental lamellæ are not very rare.

Locality and Formation.—Corniferous Limestone of Port Colborne.

Genus LINGULA (Bruguière).

Shell oblong, compressed, sub-equivalve, attached by a pedicle passing out between the valves. Shell structure minutely tubular, texture horny. Shell "slightly gaping at each end, truncated in front, rather pointed at the umbones; dorsal valve rather shorter, with a thickened hinge-margin, and a raised central ridge inside" (Woodward).

Only two species of this genus have come under my notice as occurring in the Devonian Rocks of Western Ontario, and in neither case, though in one instance the specimens are well preserved, have I been able to determine the species with certainty. Sooner, however, than add any fresh species to this already over-crowded genus, I have referred our forms provisionally to the following previously recorded species.

111. LINGULA SQUAMIFORMIS (Phillips)?

Lingula squamiformis (Phillips), Geol. of Yorkshire, Vol. II., Pl. IX., fig. 14.

Lingula squamiformis (Davidson). Monograph of British Carboniferous Brachiopoda, p. 205, Pl. XLIX., figs. 1–10, and Monograph of British Devonian Brachiopoda, p. 105, Pl. XX., figs. 11, 12.

Lingula mola (Salter), Quart. Journ. Geol. Soc., Vol. XIX., p. 480.

"Shell longitudinally oblong, one-third or less longer than wide, with sub-parallel sides, the broadest towards the anterior extremity, the frontal margin assuming either a very slight inward or outward curve. The anterior portion is gradually curved on either side, the beak being rounded or but slightly angular at its extremity in the dorsal valve, with a thickened margin, tapering, pointed retrally at its termination in the ventral one, which is consequently so much longer than the opposite valve. The valves are slightly convex, but somewhat depressed along their middle. In the dorsal one there exists a small apex close to the rounded margin of the beak, and from which usually radiate three small rounded ridges, separated by shallow sulci. The external surface in both valves is covered with numerous fine concentric striæ, or lines of growth, giving to the shell a beautifully and delicately sculptured appearance, for the minute plications of growth succeed each other with much regularity, while some stronger lines or interruptions of growth are produced at variable distances" (Davidson).

Large individuals have a length of nineteen lines and a width of thirteen lines; smaller have a length of nine lines and a width of six and a half lines.

Fig. 30.

a. Fragment of *Lingula squamiformis* (Phillips)?, natural size, from the Corniferous Limestone. *b*. *Lingula maida* (Hall), natural size, from the Corniferous Limestone.

I have several fragments of a large, oblong, flattened *Lingula* which appears to be more closely allied to *L. squamiformis*, (Phill.) from the Carboniferous and Devonian Rocks of Britain, than to any other species with which I am acquainted, though I am not at all certain that it can be regarded as specifically identical with this species. In the imperfect condition of our specimens, however, it is best to place them here provisionally. The chief point in which our examples differ from *L. squamiformis* is that the beak appears to be more broadly rounded, and the sides are not quite so straight. Some of

Mr. Davidson's figures (*Loc. cit*) would, however, agree well enough in these respects with our form, though this does not seem to be the normal condition of the species. The front portion of the shell is not exhibited by any of the specimens that I have seen, and it is, therefore, impossible to decide as to whether it was truncated or not. The only species of *Lingula* which has been described by Hall from the Devonian strata of New York, and which has any affinity with the present form, is *L. Manni* (*Pal. N. Y.*, Vol. IV., p. 6, Pl. II., fig. 3). If this be specifically distinct from *L. squamiformis*, it is possible that our specimens may belong to it, but I prefer keeping them distinct at present, as they are considerably larger and broader.

Locality and Formation.—Rare in the Corniferous Limestone of Port Colborne.

112. Lingula maida (Hall) ?

"Shell linguiform, elliptical, greatest width a little more than half the length, narrowing gently towards either extremity, obtusely rounded and produced below, and more acutely converging towards the beaks. Surface very gently convex below, and a little more convex on the umbo, marked by fine thread-like striæ, which are sometimes crowded in fascicles" (Hall, *Pal. N. Y.*, Vol. IV., p. 9, Pl. II., fig. 13).

I have only a single specimen, but that a remarkably well-preserved one, of this form, which I identify with some doubt with *L. maida* (Hall), from the Hamilton group. Our specimen is from the Corniferous Limestone, and agrees in all essential characters with the above quoted description, though slightly smaller than the specimen figured by Hall. It is apparently a ventral valve, its length being eight lines, and its greatest width about four lines and a-half. The surface exhibits no radiating striæ, but is covered with elevated, thread-like, concentric lines of growth, about from twelve to fourteen of which occupy the space of one line.

Locality and Formation.—Corniferous Limestone, Hagersville, Township of Oneida.

Genus Pholidops (Hall).

The shells of this genus are small, and very similar in appearance to the dorsal valves of small specimens of *Discina*. The valves are squamiform or discoid, calcareous, and apparently destitute of a foramen in either valve. They differ from the genus *Crania* in the fact that the shell is apparently free and unattached to other bodies. The interior shows a strong muscular callosity. Except in the characters of the interior, *Pholidops* appears to agree altogether with McCoy's genus *Pseudocrania*, with which, perhaps, further observation will unite it. I have found a single species of the genus in the Corniferous Limestone.

113. Pholidops ovatus (Hall).

Pholidops ovatus (Hall) *Pal. N. Y.*, Vol. III. p. 490, Pl. CIII.[B., Fig. 7.

Shell minute, ovate, slightly longer than wide, in shape Discinoid, with a minute excentric apex. Surface marked with fine concentric striæ of growth, about twelve of which occupy the space of one line.

I have only a single example of this form, but I have no doubt as to its identity with Hall's species.

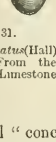


Fig. 31. *Pholidops ovatus* (Hall) enlarged. From the Corniferous Limestone

It appears, also, very doubtful if the *P. Hamiltoniæ* of Hall, from the Hamilton group can be specifically separated from *P. ovatus*. Our specimen has a length of a line and three quarters by a width of a line and a half.

Locality and Formation.—Corniferous Limestone, Port Colborne.

Genus Cœlospira (Hall).

Shell "concavo-convex, having the ventral valve convex, or sometimes sub-angularly arching over the concave dorsal valve. The surface of the shell is striated or plicated, with the plications simple or bifurcating, and of which two or more in the centre of the ventral

valve are more conspicuous than the others, forming a more or less defined mesial fold; upon the dorsal valve there is a corresponding depression. The space between the valves leaves little room for the spires, and these appendages appear to be somewhat loosely arranged, with their apices approaching each other. These shells are apparently fibrous in texture, and on this account, and from the position of the spires, they approach more nearly to *Atrypa* than to *Trematospira*, to the latter of which they are more nearly allied in external form" (Hall, *Pal. N. Y.*, Vol. IV., p. 328).

Only one species of this genus, viz., *C. concava* (Hall), has as yet been recognized as occurring in the Devonian rocks of Western Canada.

114. Cœlospira concava (Hall).

Leptocœlia concava (Hall), *Pal. N. Y.*, Vol. III., p. 245, Pl. XXXVIII., Figs. 1–7.
Leptocœlia concava (Billings), *Canadian Journal*, New Series, Vol. VI., p. 352, Fig. 127.
Cœlospira concava (Hall), Sixteenth Report on the State Cabinet, p. 60.
Cœlospira concava (Hall), *Pal. N. Y.*, Vol. IV., Pl. LIII., Figs. 13–19.

Shell small, ovate, or sub-orbicular, the width being equal to or a little less than the length. Ventral valve convex, elevated along the middle, the beak small and incurved. Dorsal valve flattened laterally, and depressed in the centre, forming a shallow and obscure mesial series. Surface with from ten to fourteen or more rounded radiating ribs, which occasionally bifurcate.

According to Hall, the dorsal valve has a small false area, and a triangular foramen which is sometimes closed below by a deltidium.

Average individuals of this species have a length of about three lines, and a width of the same or a little less. Detached valves are not uncommon in the Corniferous Limestone, but I have not seen a single perfect specimen.

In general form, and in its surface-characters, *Cœlospira concava* (Hall) closely resembles *Leptocœlia flabellites* (Conrad), and the two species have been usually regarded as belonging to the same genus. According to Hall, however, *C. concava* possesses internal spires, which are wanting in *L. flabellites*, thus necessitating the creation of a new genus for the former and for some allied species.

Locality and Formation.—Corniferous Limestone, Port Colborne and Hagersville.

Genus Centronella (Billings).

"Shells having the general form of *Terebratula*. Dorsal valve with a loop consisting of two riband-like lamellæ, which extend about one-half the length of the shell. These lamellæ at first curve gently outwards, and then approach each other gradually, until at their lower extremities they meet at an acute angle; then becoming united they are reflected backwards towards the beak, in what appears to be a thin, flat, vertical plate. Near their origin each bears upon the ventral side a single triangular crural process. This genus appears to stand between *Terebratula* and *Waldheimia*. In the former the loop is short, not exceeding greatly one-third the length of the shell, and not reflected. In the latter it extends nearly to the front, and is reflected, but the laminæ are not united until they are folded back" (Billings, *Canadian Journal*, New Series, Vol. VI., p. 271, and *Canadian Naturalist*, Vol. IV., p. 131).

Two species of this genus at least occur in the Corniferous Limestone; but good specimens are rarely to be procured, and I possess nothing more than detached valves, in which none of the internal characters are exhibited.

115. Centronella glans-fagea (Hall).

Rhynchonella glans-fagea (Hall), Tenth Report on the State Cabinet, p. 125.
Centronella glans-fagea (Billings), *Canadian Journal*, New Series, Vol. VI., Figs. 97, p. 271.
Centronella glans-fagea (Hall), Sixteenth Report on the State Cabinet, p. 45, and *Pal. New York*, Vol IV., Plate LXI., A. Figs. 1–21, 25, 26.

Shell small, ovate or sub-rhomboidal, the greatest width about the middle, from which point the sides slope to the beaks at an angle of about 85°; front rounded; valves very unequal. Ventral valve considerably larger than the dorsal, convex, sub-carinate along th

middle, abruptly curved towards the sides, and regularly arched from the beaks to the front. Beak extended beyond that of the dorsal valve and much incurved. Dorsal valve nearly flat or slightly convex above, with a wide undefined sinus, which often extends in front across the entire width of the shell. Surface smooth, or with obscure concentric lines of growth; shell-structure finely punctate.

Length from two to four or five lines, the width being equal to the length or a little less.

Detached valves of *C. glans-fagea* are of not uncommon occurrence in the Corniferous Limestone. Occasionally individual examples are found having a length of from six to eight lines, and these Mr. Billings thinks may perhaps be distinct. I am inclined to think, however, that they are only large and tumid specimens of *C. glans-fagea*.

Locality and Formation.—Corniferous Limestone of Port Colborne.

116. Centronella Hecate (Billings).

Centronella Hecate (Billings), *Canadian Journal*, New Series, Vol. VI., p. 272, Fig. 99.

Shell small, "elongate, oval, or sub-rhomboidal; apical angle from 45° to 60°; sides somewhat straight from the beak to about the middle, where, making a rounded angle, they converge towards the front margin, which is somewhat truncate for about one-third the width. Ventral valve strongly but broadly carinate from the beak along the middle to the front, descending with a flat or gently convex slope to the sides; in outline only, gently arched longitudinally; in some specimens nearly straight; the beak small, elongated, erect, and with a triangular foramen. Dorsal valve gently convex in the upper half, and with a wide shallow sinus in the lower half. Surface smooth. Length from two to four lines; width about three-fourths the length" (Billings).

Our collections comprise a few specimens which appear to agree in their essential characters with the above descriptions; but the materials at present in my hands are simply sufficient for identification.

Locality and Formation.—Corniferous Limestone, Port Colborne.

CHAPTER IV.

POLYZOA OF THE CORNIFEROUS AND HAMILTON FORMATIONS

The remains of *Polyzoa* in the Devonian Rocks of Western Ontario are very abundant, and they are of unusual interest in many ways. Unfortunately, however, they are, for the most part, more or less fragmentary, and their study is thus attended with special difficulty, since there is no class of organisms requiring greater skill and patience in their interpretation. Altogether, I have been able to identify nineteen species of *Polyzoa*, of which no less than fifteen appear to be new, whilst several forms have come to light belonging apparently to new generic types. There remains, however, a considerable number of forms, of which the materials at present in my hands are too fragmentary to justify me in describing them definitely. The forms which I have considered myself warranted in describing, belong to the following genera:—*Fenestella* (five species), *Retepora* (two species), *Polypora* (four species), *Cryptopora* (one species), *Carinopora* (one species), *Tæniopora* (two species), *Ceriopora* [*?*] (one species), *Botryllopora* (one species), *Clathropora* (one species), and *Ptilodictya* (one species). The genera *Fenestella*, *Retepora*, and *Polypora* are typical members of the family of the *Fenestellidæ*, and they comprise more than half of the total number of species identified. It is to these three genera, also, that most of the undeterminable fragments belong; so that the *Fenestellidæ* must be considered as having had a very great development in the Devonian period in North America. The genera *Cryptopora* and *Carinopora*, now characterised for the first time, also belong to the *Fenestellidæ*, though they exhibit many extraordinary, and indeed, altogether unprecedented, points of structure. The new genus *Botryllopora* can hardly be compared with any known group of the Palæozoic *Polyzoa*, but the well-known Silurian genus *Ptilodictya* is represented by at least one form; and *Ceriopora* (*?*) *Hamiltonensis* is related to certain well-known types in both the Silurian and the Carboniferous Rocks.

Genus Botryllopora (Nicholson).

(*Canadian Journal*, Vol. XIV., No. 2, 1874.)

Polyzoary calcareous, sessile and encrusting, forming systems of small circular discs, the upper surfaces of which are marked with radiating ridges upon which the cells are carried. Each disc is attached by its entire lower surface, slightly convex above, with a central non-poriferous space, round which a number of radiating poriferous ridges occupy an exterior slightly elevated zone. Cells forming a double series on each ridge, immersed, with rounded mouths which are not elevated in any part of their circumference above the general surface.

I have been unable to refer these singular *Polyzoa* to any existing group, and have, therefore, been compelled to form a new genus for their reception. In some respects the genus is allied to *Defrancia*, but the cells are not tubular, and no portion of them is free, whilst the latter genus does not appear to have ever been detected in rocks older than the Jurassic. The only Palæozoic genus of *Polyzoa* which, so far as I am aware, presents even a superficial resemblance to *Botryllopora*, is *Eractinopora* of Meek and Worthen. In this latter genus the polyzoary is star-shaped, but its internal structure is quite peculiar and altogether different to that of *Botryllopora*, whilst the entire organism appears to have been free.

The individual discs of *Botryllopora* present, however, a very striking resemblance to the separate star-shaped elevations of *Stellipora antheloidea* (Hall), from the Lower Silurian; and it may, therefore, be proper to say a few words on the structure and affinities of this genus, of which I have examined authentic specimens. *Stellipora antheloidea* occurs in the form of flattened expansions or of erect, flattened and sub-palmate fronds. The surface exhibits a vast number of little star-shaped elevations, each about a line in diameter, and consisting of a smooth, sometimes slightly depressed space, which is traversed by five, six or more obtusely-rounded radiating ridges, which do not quite meet in the centre. Each of the ridges of the star is covered with a number of rounded calices, irregularly disposed in two, three or four rows. The stars are arranged irregularly, generally at intervals of from half a line to a line, and the interspaces between them are occupied by crowded circular pores, which are the mouths of so many cœnenchymal tubuli. These pores do not encroach upon the spaces between the ridges of the stars, and the tubuli of which they are the mouths are seen on traverse section to be *tabulate*, being furnished with distinct transverse partitions. It thus appears that *Stellipora antheloidea* (Hall), is not a Polyzoön, as believed by D'Orbigny, but a *tabulate coral*, allied to *Monticulipora*, and presenting in particular a specially close resemblance to the coral which I have described under the name of *Caltopora incrassata*.

117. Botryllopora socialis (Nicholson).

Botryllopora socialis (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary social, consisting of systems of calcareous discoid bodies, which are closely adherent by their lower surface to the exterior of foreign objects. The upper surface of each disc is on the whole convex, but with a central cup-shaped depression or flattened space, the exterior portion of each being occupied by a series of strong elevated ridges or ribs arranged in a radiating manner. The diameter of the discs is about a line or a line and a quarter, and the radiating ridges are from eighteen to twenty-six or more in number. The radiating ribs are also unequally developed, some extending much nearer to the centre than the others, and each carries upon its upper surface a double row of minute round pores or apertures, the margins of which are not elevated above the general surface. The central space of the polyzoary is destitute of cells, and appears to be solid, and this seems also to be generally the case with the spaces between the radiating ribs. In some cases, however, the interradial spaces appear to be poriferous in the immediate vicinity of the circumference.

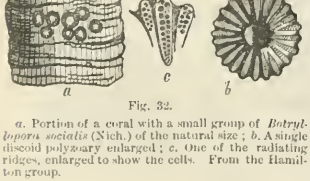


Fig. 32.

a. Portion of a coral with a small group of *Botryllopora socialis* (Nich.) of the natural size; *b*. A single discoid polyzoary enlarged; *c*. One of the radiating ridges, enlarged to show the cells. From the Hamilton group.

The groups of this singular *Polyzoön* are not of very rare occurrence in the Hamilton formation, growing parasitically upon the exterior of *Heliophyllum Halli*. It has at first sight, a close resemblance to a group of little discoid corals, such as *Microcyclus*, attached by the whole of the lower surface, the celluliferous ridges looking just like the septa, and the central space resembling the bottom of the calice. I

do not know of any Palæozoic forms of *Polyzoa* with which this could be compared, and it is readily separated from such forms as *Defrancia* by the entirely different characters of the cells, which approach closely in form to those of *Retepora*, *Polypora*, and *Fenestella*. The largest group that I have seen comprises about twenty of the discoid cœnœcia, mostly in contact but apparently in no way connected with one another directly.

Locality and Formation.—Hamilton Group, Bartlett's Mills, near Arkona, Bosanquet.

118. Ceriopora (?) Hamiltonensis (Nicholson).

Ceriopora (?) *Hamiltonensis* (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary ramose; branches cylindrical, about half a line in diameter, dividing dichotomously at intervals of from a line and a half to three lines, the angle included between each pair of branches being about 40° or 45°. Surface covered with oval, rounded, or subquadrate cell-mouths, arranged in longitudinal rows, which are separated by delicate thread-like lines. The cells of each row alternate with those of the next row, so that they come to be disposed in regular diagonal lines. About four rows (sometimes five) occupy the width of the stems, the cells having a width of about a tenth of a line; and there are about five cells in the space of one line, measured vertically. The interspaces between the mouths of the cells are occupied by exceedingly minute tubuli, which form only a single row or are altogether absent on the lines which bound the cells laterally, whilst they usually form a double series on the spaces by which the cells of a given row are separated vertically.

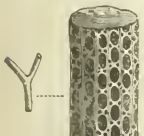


Fig. 33.

Portion of the stem of *Ceriopora* (?) *Hamiltonensis* (Nich.) natural size, showing the mode of branching. *a* a fragment of the same enlarged to show the form of the cells and the tubular intercellular interspaces. From the Hamilton group

This beautiful little fossil occurs in great abundance in some of the beds of the Hamilton Formation. It is allied to the *Ceriopora punctata* of Goldfuss (*Petref. Germ.* Pl. LXIV., Fig. 12,) and to *Millepora interporosa*, (Phillips, *Geol. of Yorkshire*, Vol. II., Plate I., Figs. 36–39), especially to the former, but it is distinguished from both by perfectly good and easily recognized characters. I am, at present, unable to decide as to its true generic affinities, and have simply referred it provisionally to *Ceriopora* on account of its close relationship to *C. punctata*, (Goldf.) which likewise occurs in the Devonian Rocks.

Locality and Formation.—Common in the Hamilton Formation, Widder, Township of Bosanquet.

Genus Ptilodictya (Lonsdale).

"Corallum thin, calcareous, foliaceous, or branching dichotomously; branches sometimes coalescing; a thin, laminar, flattened, concentrically wrinkled central axis, set with oblique short sub-tubular or ovate cells on both sides, with prominent oval mouths nearly as large as the cells within; branches often flattened, with the margin solid, sharp-edged, striated, and without cells; the boundary ridges of the cells square or rhomboidal" (McCoy).

The genus *Ptilodictya* of Lonsdale is identical with *Stictopora* of Hall, and includes a group of curious *Polyzoa*, which are essentially Silurian, but which extend into the Devonian Rocks, and appear even to have survived into the Carboniferous period. The presence of a non-celluliferous striated margin does not appear to be absolutely essential or to be universally present in the genus; and the central laminar axis or septum, which separates the cells of opposite sides, is sometimes longitudinally striated, as well as being concentrically wrinkled. A single species of the genus, which I cannot identify with any previously recorded species, occurs plentifully in the Corniferous Limestone, and more rarely in the Hamilton formation of Western Ontario.

119. Ptilodictya Meeki (Nicholson).

Ptilodictya Meeki (Nicholson), *Geological Magazine*, March, 1874.

Polyzoary having the form of thin, very much flattened elliptical branches, which have an average width of about a line, rarely reaching a line and a half or two lines, with a thick-

ness of about half a line ; dividing dichotomously at angles of 50° or 60°, generally at intervals of from four to six lines. No developed non-poriferous margins, the whole exterior surface seeming to be occupied by the cells. Cells tubular, curved, opening by oval mouths, arranged in rows which are separated by delicate thread-like lines. About ten rows of cells in the space of one line, the cells of each row alternating with the next, so that the cell-mouths have a quincuncial arrangement. About five cell-mouths in the space of one line, measured longitudinally, the interspaces between them being generally considerably longer than the long diameter of the cell-mouths themselves. The partition or laminar axis between the cells on the two sides of the polyzoary is marked with delicate longitudinal striæ, which correspond with the rows of cells, together with obscure concentric wrinkles, the convexity of which is directed towards the apex of the frond.

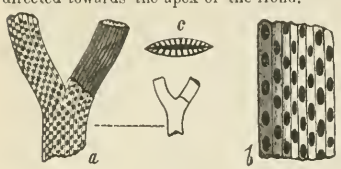


Fig. 34.

Ptilodictya Meeki (Nicholson) ; *a*, Portion of the polyzoary magnified to show the branching, and the longitudinally striated axis ; *b*, A fragment enlarged, showing the form and arrangement of the cells ; *c*, Transverse section, magnified. From the Corniferous Limestone.

This species presents a close resemblance to *Ptilodictya Gilberti*, (Meek), from the Corniferous Limestone of Ohio (Geol. Survey of Ohio, Palæontology, Vol. I., Plate XVIII., Fig. 1.) with which I was at first disposed to identify it. I have, however, been compelled to separate it as a distinct species upon the following grounds:— 1. *P. Gilberti* is stated to have eight or ten rows of cells in the space of two and a half lines ; whereas *P. Meeki* has never less than ten in the space of one line, which would give twenty-five rows in two and a half lines. 2. The central laminar axis of *P. Gilberti* is said to be covered with regular, arched transverse striæ ; whereas that of *P. Meeki* exhibits well defined longitudinal striæ, with either no transverse striæ, or with but obscure transverse wrinkles. 3. *P. Gilberti*, in common with the typical species of the genus, possesses well-marked striated and non-poriferous margins ; but I have been unable to detect any traces of these in the numerous specimens of *P. Meeki*, which have passed under my notice. 4. *P. Gilberti* seems to be upon the whole a larger and more robust species, sometimes attaining a width of three lines, whereas the average width of *P. Meeki* is only about one line or a little over. I have, therefore, thought it safest to separate *P. Meeki* under a distinct specific title, and I have named it in honour of Mr. F. B. Meek, one of the most distinguished palæontologists of America.

In some respects *P. Meeki* presents considerable resemblance to *P. fenestrata* (Hall), from the Chazy Limestone ; but in the absence of any sufficiently detailed description of the latter species, and especially of accurate measurements, it is impossible to say how close this resemblance may really be.

So far as at present known, *P. Gilberti* (Meek), and the present species are the only forms of the genus *Ptilodictya*, which have hitherto been detected in the Devonian Formation.

Locality and Formation.—Common in the Corniferous Limestone of Port Colborne. Rare in the Hamilton formation of Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Polypora (McCoy).

"Corallum forming a delicate, reticulated, calcareous expansion, usually fan-shaped ; interstices" (branches) "round, having on one side from three to five rows of cell-openings, the margins usually not projecting ; interstices connected by thin, transverse, non-poriferous dissepiments ; reverse rounded, striated, or granulated" (McCoy, *Pal. Foss.* p. 115).

According to the above definition, *Polypora* is distinguished from *Retepora* by the possession of distinct dissepiments, which do not bear pores ; whereas in the latter genus the branches inosculate directly, without the development of distinct dissepiments, and the points of junction of the branches carry cells. There are, however, certain forms, such as *P.* (*Gorgonia*) *ripisteria* (Goldf.) and *P. gracilis* (Prout.), in which the frond resembles *Fenestella* and the typical forms of *Polypora*, in having the branches united by distinct dissepiments, but these dissepiments carry pores, whilst there are three or more rows of cells on the branches. It is, therefore, necessary either to constitute a new genus for the reception of these forms, or to admit that the dissepiments of *Polypora* may carry pores. If the latter course be adopted, *Polypora* will agree with *Fenestella* in the general structure of the polyzoary, but will be distinguished by the greater number of the rows of pores to each branch, and by the absence of

distinct carinæ. From *Retepora*, again, *Polypora* will be distinguished solely by the fact that the branches in the latter genus are united by distinct poriferous or non-poriferous dissepiments, whilst in the former the branches simply anastomose or inoseulate.

McCoy states that no infundibuliform species of *Polypora* had come under his notice; but I have seen such, and in these cases the cells are born by the inner faces of the branches.

The following species of *Polypora* have come under my notice in the Corniferous Limestone of Western Ontario: —

120. Polypora pulchella (Nicholson).

Polypora pulchella (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary infundibuliform or flabellate, often attaining a considerable size. Branches nearly straight, radiating from the base, and increasing in number by bifureation at intervals of from two to four lines. About six branches in the space of a quarter of an inch, the diameter of the branches being about one-forty-fifth inch, the interspaces slightly narrower. Dissepiments on the same plane as the outer surface of the polyzoary, depressed below the inner surface, short, narrower than the branches, and placed at intervals of about half a line apart. Fenestrules regularly oval, half a line in length, and about a quarter of a line broad, four or five in the space of a quarter of an inch, alternate or sub-alternate in contiguous rows. The upper or inner surface of the branches carries the pores or cells, three rows of which occur on every branch, and sometimes four opposite the origin of the dissepiments. The cells are flask-shaped, sometimes slightly unequal in size; their mouths round; those of the central row alternating with the lateral rows. From six to eight pores in the space of a line, or three to four in the length of each fenestrule. The reverse face of the polyzoary is smooth or obscurely striated.

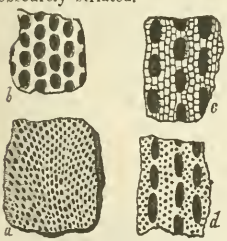


Fig. 35.—*a*. Fragment of *Polypora pulchella* (Nich.), natural size; *b*. portion of the reverse of the same magnified; *c*. fragment from which the exterior non-poriferous face has been stripped away, enlarged to show the cells; *d*. cast of the inner surface, enlarged, showing the cell-mouths. From the Corniferous Limestone.

P. pulchella belongs to that section of *Polypora* in which the dissepiments do not carry pores. The species to which it is most nearly allied is the *P. Halliana* of Prout, from the St. Louis group of Illinois. It is, however, readily distinguished by the greater development of the dissepiments, the greater proportionate and absolute width of the fenestrules, and the possession of three (instead of four) rows of cells on each branch. All my specimens are fragmentary, but the species must have attained a large size, the funnel-shaped polyzoary having in one example a diameter of three inches.

Locality and Formation.— Common in the Corniferous Limestone of Port Colborne, and Lot 6, Con. 1, Wainfleet.

121. Polypora Halliana (Prout).

Polypora Halliana (Prout), Proc. St. Louis Acad. Sci., Vol. I., p. 580.

Polypora Halliana (Prout), *Geology of Illinois*, Vol. II., plate XXI, Figs. 4–4*b*.

Polyzoary essentially similar in its characters to the preceding, but differing in its dimensions and the number of the rows of cells. Cœnœcium forming broad flattened expansions, the branches of which radiate from the base, increasing by bifurcation at intervals of from three lines to half an inch. The branches are round, nearly half a line in width, about four or five in the space of a quarter of an inch. Dissepiments small, depressed, not more than a fiftieth of an inch in width, often appearing to be little more than connecting points between the branches. Fenestrules long-oval, one line or nearly in length, and about half a line or less in width; about three in a quarter of an inch measured longitudinally, and the same number in the space of two lines measured transversely. No pores upon the dissepiments. Cells arranged in four alternating rows upon the branches, their apertures rounded; about four to the length

of a fenestrule, separated by obscure and delicate undulating striæ. Reverse apparently smooth.

I have little doubt as to the identity of our specimens with those described by Prout, though there are some trivial differences. From *P. pulchella* (Nich.) the present species is readily distinguished by the more robust branches, the greater length of the fenestrules and their smaller width, as well as by the possession of four, instead of three, rows of cells.

Locality and Formation.—Rare in the Corniferous Limestone of Lot 6, Con. 1, Wainfleet.

122. Polypora tenella (Nicholson).

Polypora tenella (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary small, forming a flattened expansion; branches radiating from the base, and increasing by bifurcation at intervals of about two lines. Branches narrow, about eight in the space of a quarter of an inch, their width being about a quarter of a line. Fenestrules oval, about eight or nine in a quarter of an inch, measured longitudinally, and ten in the same space measured transversely; the length of each about half a line, the width a third less. Dissepiments very short and narrow, without pores. Cells arranged in three alternating rows on the branches, opening by minute rounded apertures, two or three of which occupy the space of a fenestrule. Reverse unknown.

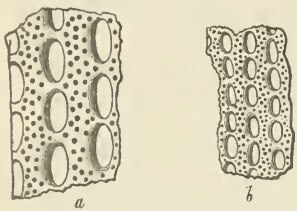


Fig. 36.

a. Fragment of the cast of *Polypora Halliana*, (Prout), magnified; *b*. fragment of the cast of *Polypora tenella* (Nich.), enlarged. From the Corniferous Limestone.

This pretty little species is distinguished from the preceding forms by its much more delicate proportions, its narrower and more closely set branches, and its much smaller fenestrules.

Locality and Formation.—Rare in the Corniferous Limestone of Lot 6, Con. 1, Wainfleet.

123. Polypora tuberculata (Nicholson).

Polypora tuberculata (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary small, forming a flattened expansion which springs from a strong foot-stalk. Branches radiating from the base, and increasing by bifurcation at intervals of about a line and a half, from a third to half a line in breadth, rounded, and destitute of carinæ. Dissepiments very short, widest at their junction with the branches. Fenestrules somewhat irregular in shape, usually a very long oval, always longer by from one half to two-thirds than wide; having an average width of a third of a line to half a line by a length of one line or a little less. Two fenestrules in two lines measured longitudinally, and four in the same space measured transversely, those of contiguous rows being usually opposite or nearly opposite. Dissepiments non-poriferous. Four (sometimes three) alternating rows of cells on each branch, opening by minute rounded pores, which are prominently elevated above the general surface. Five pores to the length of a fenestrule. Reverse unknown.

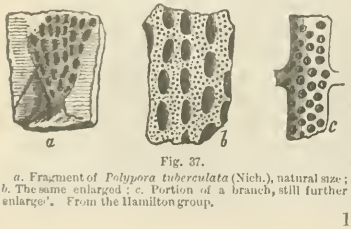


Fig. 37.

a. Fragment of *Polypora tuberculata* (Nich.), natural size; *b*. The same enlarged; *c*. Portion of a branch, still further enlarged. From the Hamilton group.

Polypora tuberculata differs from all other recorded species of the genus, except *P. verrucosa* (McCoy), by the possession of prominent-edged pores, which give to the celluliferous surface of the branches a peculiar tuberculated appearance. The latter, however, has exceedingly long and narrow fenestrules, with nearly twice as many pores to the length of a fenestrule. I have only seen fragmentary examples of the species.

Locality and Formation.—Rare in the Hamilton group, Bartlett's Mills, Arkona, Township of Bosanquet.

Genus Retepora (Lamarck).

Polyzoary forming a reticulated expansion composed of flexuous inosculating branches, which are not united by distinct dissepiments, but which anastomose in such a manner that the entire frond forms a continuous network perforated by regular apertures or fenestrules. In the funnel-shaped species the cells are placed on the upper or inner surface of the cœnœcium, and there are two or more rows of cells to each branch. Outer surface striated.

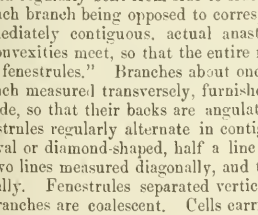
The genus *Retepora* is separated from *Polypora* by the fact that the fenestrules are formed simply by the coalescence of the flexuous branches at definite points, and thus look like perforations in the cœnœcium, whereas in the latter the fenestrules are formed by a distinct series of non-poriferous dissepiments. From *Fenestella*, *Retepora* is separated by not possessing dissepiments and by the common occurrence of more than two rows of cells to each branch, In the funnel-shaped species of *Retepora* the cells certainly usually occupy the internal face of the funnel, whereas they are generally external in those species of *Fenestella* which have the same shape. I should be inclined to doubt, however, if this character is universal, and it certainly cannot often be used as a practical means of distinguishing the species of these two genera, since its application fails in the case of fragments of the infundibuliform species, and also of the fan-shaped forms.

The following species of *Retepora* occur in the Devonian Rocks of Western Ontario.

124. Retepora prisca (Goldfuss).

Retepora prisca (Goldfuss), Petref. Germ. Pl. XXXVI., fig. 19.
Retepora prisca (Phillips), Pal. Foss. Cornwall, &c., p. 25, fig. 37.
Fenestella prisca (McCoy), Pal. Foss., p. 76.

Polyzoary forming broad, fan-shaped, or undulating expansions, which in some instances have the form of an open funnel. Branches parallel, flexuous, and undulating, alternately and regularly bent from side to side, the successive convexities and concavities on each side of each branch being opposed to corresponding convexities and concavities in the branches immediately contiguous, actual anastomosis taking place at the successive points where two convexities meet, so that the entire frond becomes perforated by a series of oval apertures or "fenestrules." Branches about one-third of a line in width, eight or nine in a quarter of an inch measured transversely, furnished with a strong but blunt keel on the non-celluliferous side, so that their backs are angulated. Reverse, when well-preserved, finely striated. Fenestrules regularly alternate in contiguous rows, and thus arranged in diagonal lines, broad-oval or diamond-shaped, half a line in length and rather less in width, three in the space of two lines measured diagonally, and the same number in a quarter of an inch measured vertically. Fenestrules separated vertically by interspaces of about half a line, along which the branches are coalescent. Cells carried in the funnel-shaped examples on the inner or upper surface of the cœnœcium ; two rows of cells to each branch, alternately arranged, and those opposite the points where the branches unite larger than the others. Four or five cells to the length of a fenestrule.



a *b*

Fig. 38.

a. Fragment of *Retepora prisca* (Goldfuss), showing the non-celluliferous face, enlarged. *b*. Fragment of the same from which the striated outer layer has been removed, showing the backs of the cells, enlarged. From the Corniferous Limestone.

I have no doubt as to the identity of this abundant species with the familiar *Retepora prisca* of the Continent of Europe and Great Britain. The only point in which our species appears to differ from *R. prisca* is in the angulation (for it is this, rather than a true carination) of the non-cellular face of the branches. This feature, however, is only shown in very well preserved specimens, and is absent in others, and I do not think it is one of such importance as to justify the formation of a new species. I do not comprehend upon what grounds McCoy should have placed this species under *Fenestella*, since its reference to *Retepora* is rendered indubitable by the marked absence of distinct dissepiments, and by the fact that the fenestrules are formed simply by the coalescence of the flexuous and regularly undulated branches.

Locality and Formation.—Common in the Corniferous Limestone of Ridgeway and Port

Colborne; also in the Hamilton group at Bartlett's Mills, near Arkona, Township of Bosanquet.

125. Retepora Phillipsi (Nicholson).

Retepora Phillipsi (Nicholson), *Geological Magazine*, April, 1874.

Polyzoary infundibuliform, or forming a flattened expansion. Branches slender, fifteen to eighteen in a quarter of an inch measured transversely, parallel, flexuous, not united by dissepiments, but coalescing at intervals of about a third of a line, and over spaces of the same length. Fenestrules oval, six or seven in the space of a quarter of an inch measured vertically, seven or eight in the same space measured diagonally (five in two lines on an average), regularly alternate in contiguous rows. Cells in two alternating rows upon each branch, the rows separated in decorticated specimens by a distinct impressed line. Three cells to the length of a fenestrule, sometimes only two, and one or two opposite the points where the branches coalesce. Reverse unknown

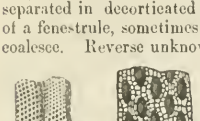


Fig. 39.

a, Fragment of *Retepora Phillipsi*, (Nich.) natural size; *b*, Fragment of the same in which the outer non-cellulliferous layer has been removed, showing the beaks of the cells, enlarged. From the Corniferous Limestone.

This is a genuine *Retepora*, and is closely allied to the preceding in its general form and its biserial cells. It is, however, readily distinguished by the more slender, crowded, and apparently non-carinate branches, the much smaller size of the fenestrules, and the greater number of these openings in a given space. I have named the species in honour of Professor Phillips, to whom we owe so many descriptions of Devonian and Carboniferous fossils.

Locality and Formation.—Corniferous Limestone of Port Colborne.

Genus Cryptopora (Nicholson).

(*Canadian Journal*, Vol. XIV., No. 2, and Annals of Nat. History, Feb. 1874.)

Polyzoary forming a rigid infundibuliform calcareous expansion, springing from a strong, solid, branching foot-stalk or rhizome. Exterior of the cœnœcium, forming a continuous, non-perforated, thin, calcareous membrane, internal to which is a second or intermediate layer, the two being composed of the amalgamated or coalescent branches ("interstices"). This intermediate layer is marked by shallow longitudinal and bifurcating sulci corresponding with the lines between the branches, and its surface exhibits reticulating lines which correspond with the bases or proximal ends of the cells. The internal surface of the intermediate layer carries the cells, which are flask-shaped, and are arranged in double rows, forming regularly flexuous lines, enclosing oval interspaces, exactly as in *Retepora*. The oval interspaces, however, instead of constituting so many "fenestrules," are the bases of so many pillars, which proceed perpendicularly inwards, across a central space, to join with an internal calcareous membrane which forms the innermost lining of the funnel-shaped frond.

It follows from the above description that the mouths of the cells in *Cryptopora*, neither open on the exterior of the frond, as is commonly the case in *Fenestella*, nor open on the interior of the polyzoary, as is the case in the infundibuliform species of *Retepora*. On the contrary, we have in this extraordinary genus the entirely unique arrangement that both the internal and external aspects of the funnel-shaped frond are to all appearance closed by a continuous calcareous membrane. The cells are not placed upon either of the free surfaces of the polyzoary, but occupy a central

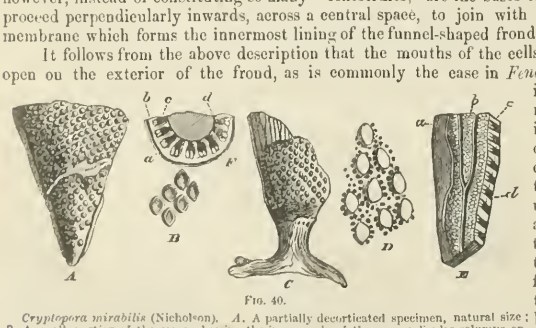


Fig. 40.

Cryptopora mirabilis (Nicholson). *A*. A partially decorticated specimen, natural size; *B*. A small portion of the same, showing the inner ends of the perpendicular columns enlarged; *C*. Another partially decorticated specimen, springing from a strong foot-stalk, natural size; *D*. Part of the interior surface of the intermediate layer, showing the mouths of the cellules and the broken perpendicular columns, enlarged; *E*. A small portion of the frond greatly enlarged, and somewhat diagrammatically represented; *F*. Transverse section of part of the frond enlarged, and also represented in a slightly diagrammatic manner; *a*. The external membrane; *b*. The intermediate sulcated layer; *c*. The central space containing the cells and traversed by the perpendicular columns; *d*. The internal membrane.

space, which has its internal wall formed by the innermost membrane and its external wall by an intermediate layer composed of the laterally-coalescent branches. The cells are situated upon the internal face of the outer layer of this central space (*i. e.* the intermediate layer); and the two layers are kept apart by a system of pillars which are attached by their inner ends to the internal layer and by their outer ends to the intermediate layer. These pillars traverse the central space perpendicularly, and correspond with the fenestrules of a *Retepora*. The water must have been admitted to the central space, and thus to the cells, by openings in the free edge of the infundibuliform polyzoary, but none of our specimens exhibit this portion of the frond.

In the genus *Hemitrypa*, (Phillips), the fenestrules do not perforate the frond so as to reach the outer face of the polyzoary, but are filled up by a calcified membrane. The cells, however, open upon the external surface, instead of into a central space, and the structure of the cœnœcium is in other respects very different.

The following is the only species of the genus which I have as yet met with :—

126. Crytopora mirabilis (Nicholson).

Cryptopora mirabilis, Nicholson, Annals of Nat. Hist., Feb. 1874.

Polyzoary infundibuliform, apparently from one to three inches in height. External layer, thin, imperforate, smooth, or obscurely striated. Intermediate layer formed of the coalescent branches, marked by vertical grooves or sulci, which are placed about half a line apart, and sometimes bifurcate. Besides these grooves, the outside of the intermediate layer is marked by inosculating lines, which map out small oval or polygonal spaces corresponding with the cells beneath. The inner surface of the intermediate layer carries the cells, which are arranged biserially in flexuous lines, and enclose oval or rhomboidal interspaces. These interspaces are disposed in very regular diagonal lines, about four in the space of two lines, and they give origin to a series of short rounded pillars which extend inwards at right angles to meet the internal layer. Central space in which the cells are situated about half a line to two-thirds of a line in depth. Internal layer thin and membranous. The entire frond springs from an exceedingly strong, horizontal, branched stalk, the surface of which is marked by vermicular striæ.

The materials in my hands are not sufficient to permit of an entirely full elucidation and illustration of the characters and structure of this remarkable species. Different specimens, however, or different parts of the same specimen, show the following appearances (Fig. 40) :—

1. The external membrane is very thin, and is only preserved in part in any specimen that I have seen. It corresponds with the reverse or non-poriferous layer of an ordinary *Retepora*, and in reality is to be regarded as nothing more than the exterior portion of the intermediate or celluliferous layer. Nothing, in fact, is commoner than to meet with precisely similar specimens of *Retepora* in which the reverse has been stripped off, and the bases of the cells are thus exposed to view.

2. The intermediate layer (together with the external layer, as just remarked) is clearly formed by the coalescence of the branches. When viewed from the outside (Fig. 40, *E. b*) it exhibits shallow vertical grooves marking out the original branches, and it also shows the outline of the cells below.

3. The structure of the interior of the intermediate layer, and of the central space of which it forms the outer boundary, can be studied in specimens which exhibit the inner surface of the funnel, or in those which have been broken across transversely. In specimens which show the interior, and from which the innermost layer has been removed in whole or in part, we see the mouths of the cells, as rounded pores placed on the inner aspect of the intermediate layer (Fig. 40 *D*). The cells are arranged in double rows, forming regularly bent or undulating lines, which correspond with the inner faces of the branches, and which enclose the oval spaces which correspond with the fenestrules, just as in *Retepora*. When we look, however, at a specimen which is broken across (Fig. 40 *F.*), it is seen that instead of perforations between the inosculating branches, we have a series of stout pillars, which run perpendicularly inwards from the poriferous face, and have their internal ends connected together by a thin calcareous membrane, which forms the innermost lining of the funnel-shaped frond. There is thus formed a continuous central space, which is lined outwardly by the cells, and to which water must have been admitted by the opening in the margin of the funnel.

4. Specimens which are casts of the interior of the frond, to which the innermost membrane with the ends of the perpendicular columns still remain attached, are not uncommon (Fig. 40 *A* & *C*). These show that the columns are arranged in beautifully regular diagonal lines; and their inner ends seem to have been convex, as they leave in many cases concave or cupped scars, of an oval or rhomboidal shape, upon the outside of the cast (Fig. 40 *B*).

5. One specimen exhibits a strong horizontal foot-stalk, from which the frond grew up vertically (Fig. 40 *C*). This foot-stalk is branched at both ends, its surface is covered in parts with vermicular striæ, and its structure appears to have been minutely tubular or cellular.

6. Lastly, some specimens appear to show the extraordinary character of a second frond, quite similar in structure to the first, invaginated within the outer one, so as to give rise to an internal cone closely applied to the internal surface of the external funnel. It is possible, however, that this appearance may admit of some other interpretation.

I have treated this species at some length on account of its very remarkable and complicated structure; but there are still several points connected with it which I have been unable to make out with my present materials. Specimens are by no means particularly rare, but I have seen none which are not fragmentary.

Locality and Formation.—Corniferous Limestone of Port Colborne and Lot 6, Con. 1, Wainfleet.

Genus Fenestella (Lonsdale).

Polyzoary forming a calcareous, flattened or infundibuliform expansion, composed of sub-parallel branches, which radiate from the base, and are united laterally by cross-bars or dissepiments, so as to form a network, the meshes of which are in general more or less oblong or sub-quadrate. One surface of the branches (in the infundibuliform species the *inner* surface) is rounded and covered by a dense, striated or minutely porous layer. The opposite surface of the branches (in the infundibuliform species the *outer* surface) is furnished with two rows of short tubular cells, the mouths of which are separated by a more or less prominent carina or keel. The dissepiments are usually without cells. Occasionally a row of small cells upon the mesial keel (the *Fenestrellina* of D'Orbigny).

Fenestella differs from *Retepora* in possessing distinct dissepiments, and in not having the fenestrules formed simply by the coalescence of the branches; whilst the cells are separated by a distinct keel. From *Polypora* (McCoy), *Fenestella* is separated by having only two principal rows of cells, and usually only these two, the third row if present being very minute, whilst the lines of cells are separated by a carina.

The following species of *Fenestella* occur in the Corniferous Limestone and the Hamilton group of Western Ontario; though there are others which cannot be determined until more complete materials shall have been collected.

127. Fenestella magnifica (Nicholson).

Polyzoary forming a flattened expansion of unknown but apparently considerable size. Branches almost perfectly straight, bifurcating at intervals of from one quarter of an inch to one inch, nearly parallel, united by straight transverse dissepiments, sub-angular or obtusely carinated and closely striated on the non-celluliferous side. About four branches in the space of a quarter of an inch measured across the frond. Dissepiments about the same in diameter as the branches, usually placed at intervals of from one line to a tenth of an inch apart. Fenestrules oblong, rectangular, nearly equal, from one line to one-tenth of an inch in length by two-thirds of a line in width, nine in one inch measured vertically, and twelve in the same space measured diagonally, placed nearly but not quite at the same level in contiguous rows. Celluliferous face unknown.

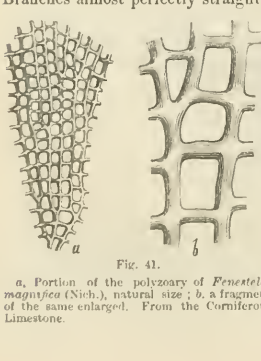


Fig. 41.

a, Portion of the polyzoary of *Fenestella magnifica* (Nich.), natural size; *b*, a fragment of the same enlarged. From the Corniferous Limestone.

This species (Fig. 41) is most nearly allied to *Fenestella laxa* (Phillips), from the Carboniferous and Devonian Rocks of Britain; but it is readily distinguished by the regular dimensions of the fenestrules, their rectangular shape, and their much smaller size. (The fenestrules

in *F. laxa* are from two to four times as large as those of *F. magnifica*). From *Polypora* (*Gorgonia*) *ripisteria* (Goldfuss), the present species is separated by its rectangular, not oval, fenestrules, the much greater proportionate and absolute width of the fenestrules, and the straight, not flexuous, branches.

I have only seen a single specimen of *F. magnifica*, and that only exhibits the reverse of the cœnœcium; but the general characters of the frond are so unlike any previously recorded species of *Fenestella* with which I am acquainted, that I have thought myself justified in forming a new species for its reception.

Locality and Formation.—Corniferous Limestone of Port Colborne.

128. Fenestella marginalis (Nicholson).

Polyzoary forming a fan-shaped expansion, of unknown dimensions. Branches straight, nearly parallel, about four in the space of two lines. Dissepiments exceedingly narrow, not more than one hundredth of an inch in width, slightly expanded at their points of junction with the branches, quite straight, and separated by intervals of one line, slightly alternating in contiguous rows. No cells upon the dissepiments. Fenestrules oblong, regularly rectangular, nearly twice as long as wide, (nearly one line in length and less than half a line in width); three fenestrules in a quarter of an inch measured vertically, and five in the same space measured transversely. Two marginal rows of large flask-shaped cells, between which are two or sometimes three rows of minute elongated cells, which probably occupied a central keel. Four large cells to a fenestrule, and one at the origin of each dissepiment. As in the case of the preceding species, I have only a single fragmentary example of this species, but its characters are so peculiar that I have no doubt as to its specific distinctness. Our specimen is one exhibiting the back of the polyzoary, but the outer striated non-celluliferous layer has been denuded, and the proximal ends of the cells are thus brought into view.

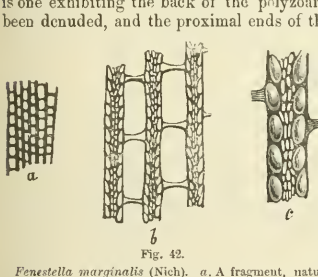


Fig. 42.

Fenestella marginalis (Nich). *a*. A fragment, natural size; *b*. A portion of the same magnified; *c*. A portion of a branch still further magnified, viewed from behind and showing the large marginal cells and the minute central cells. From the Corniferous Limestone.

In its general form *F. marginalis* is clearly a genuine *Fenestella*, as shown by the straight branches, the distinct straight non-celluliferous dissepiments, its rectangular fenestrules, and its possession of a row of large cells on each side of each branch. This last character separates it from *Polypora*, and the others distinguish it from *Retepora*. The specimen does not enable one to affirm with certainty that the two lateral rows of cells were separated by a median keel, but it appears highly probable that this was the case. In the genus or sub-genus *Fenestrellina* (D'Orbigny), the mesial keel separating the two lateral rows of large cells, carries a central row of minute cells. In *F. marginalis*, however, the space between the lateral rows of cells carries a series of minute closely-crowded cells, which are arranged in general in two alternating rows, but sometimes in three. This character, so far as I am aware, has not hitherto been observed in any species of *Fenestella* except *F. rigidula* (McCoy), and it may, perhaps, afford a ground of sub-generic distinction. If, as is most probable, a median keel were present, it must have exhibited the openings of two or three rows of minute cells.

In its general form, *F. marginalis* exhibits some resemblance to *F. magnifica* (Nich.), but its dimensions are much smaller. The former has four branches in a space of two lines, and five fenestrules in a quarter of an inch measured transversely, whilst the dissepiments are exceedingly thin, and the length of the fenestrules is nearly double the width. On the other hand, in *F. magnifica* there are three branches in a space of two lines, and about three fenestrules in a quarter of an inch measured diagonally or transversely, whilst the dissepiments are about as thick as the branches, and the fenestrules are only slightly longer than wide.

Locality and Formation.—Corniferous Limestone, Port Colborne.

129. Fenestella cribrosa (Hall).

Fenestella cribrosa (Hall), Pal. N. Y., Vol. II., p. 166, Pl. XL., figs. 3*a*, 3*b*.

Polyzoary forming a flattened expansion of unknown dimensions. Branches strong, parallel, often undivided for a distance of half an inch or more, very closely approximated, fifteen or eighteen in a quarter of an inch. Dissepiments about the same width as the branches, or slightly narrower, not dilated at their points of junction with the branches. Fenestrules opposite, sub-alternate, or alternate in contiguous rows, oval or quadrangular, one-third longer than wide. From ten to twelve fenestrules in a quarter of an inch measured vertically, and from fifteen to eighteen in the same space measured transversely. Non-poriferous side closely and finely granulated and striated. On the poriferous side, both the branches and the dissepiments are keeled with a prominent and very sharp carina, and the dissepiments are placed upon a lower plane than the branches, so that in many cases the latter alone are visible. Two rows of cellules on each branch, opening by comparatively large rounded apertures on the lateral aspects of the branch. No pores on the mesial keel or on the dissepiments. Two pores to the length of a fenestrule, and one opposite the base of each dissepiment.

I have no doubt as to the identity of our specimens with *Fenestella cribrosa* (Hall), from the Niagara Limestone, though Hall's description embraces only the non-celluliferous side.

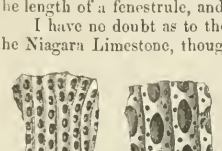


Fig. 43.

a Fragment of the non-celluliferous side of *Fenestella cribrosa* (Hall), enlarged; *b* fragment of the celluliferous side of the same enlarged. From the Hamilton Group.

The species is quite readily distinguished from all other known species of the genus by the approximation of the slender branches and dissepiments, from which it results that an extraordinarily large number of fenestrules occupy a given space, whether measured vertically or transversely. The characters of the celluliferous side are also sufficiently distinctive. Some examples exhibit proportions slightly larger than those given in the above description, and these may possibly constitute a distinct variety or even a distinct species.

Locality and Formation.—Not uncommon in the Hamilton Group at Widder, and at Bartlett's Mills, near Arkona, Township of Bosanquet.

130. Fenestella tenuiceps (Hall).

Fenestella prisca (?) (Hall), Pal. N. Y., Vol. II. p. 50, Pl. XIX., Fig. 4, *a–m*.

Fenestella tenuiceps (Hall), Pal. N. Y., Vol. II. p. 165, Pl. XL. D, Fig. 2, *a–h*.

Polyzoary infundibuliform or forming a flattened expansion of a fan-shaped figure. Branches nearly straight, sub-parallel, increasing by bifurcation, which usually takes place at intervals of two or three lines, though sometimes the branches remain undivided for half an inch or more. From eight to ten branches in the space of one quarter of an inch. Dissepiments slightly narrower than the branches, markedly expanded at both ends, and separated by intervals of a third of a line or rather more. Fenestrules oval, not distinctly rectangular, nearly or quite twice as long as wide, about six or seven in a quarter of an inch, measured vertically, and from eight to ten in the same space measured transversely, sub-alternate or alternate in contiguous rows. Non-celluliferous surface, finely striated. Cells in a double row on each branch, about four to each fenestrule.

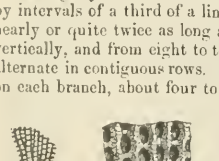


Fig. 44.

Fenestella tenuiceps (Hall), *a* fragment of the natural size; *b* part of the same enlarged. From the Corniferous Limestone.

Specimens conforming to the above characters are of common occurrence in both the Corniferous Limestone and the Hamilton Formation of Western Ontario, and little doubt can be entertained as to their identity with the species described by Hall under the name of *F. tenuiceps*, from the Clinton and Niagara Formations of the State of New York. Though several of our specimens, by decortication of the non-poriferous layer, show the proximal ends of the biserial cells, none of them actually exhibit the celluliferous face of the polyzoary. According to Hall, however, the branches are strongly carinate on this aspect, with a sharp-edged keel, and the cells open on the sides of the branches.

In many respects *F. tenuiceps* (Hall) very closely approximates to *F. plebeia* (McCoy), from the Carboniferous and Devonian Rocks of Britain, the chief difference of importance being that the fenestrules in the latter are said to be rectangular, whereas they are oval in the former. I should doubt if the two forms are specifically distinct.

Locality and Formation.—Abundant in the Corniferous Limestone of Port Colborne, Ridgeway, and Lot 6, Con. 1, Wainfleet. Also common in the Hamilton Formation at Bartlett's Mills, near Arkona, Township of Bosanquet.

131. Fenestella filiformis (Nicholson).

Polyzoary exceedingly delicate, composed of parallel, extremely narrow branches, about fifteen or sixteen of which occupy the space of one quarter of an inch. Dissepiments thread-like, narrower than the branches, expanded at their points of junction with the branches, separated by intervals of about $\frac{1}{120}$ inch. Fenestrules one-third wider than long, rectangular or transversely oblong, twenty four in the space of one quarter of an inch measured vertically, and about fifteen in the same space measured transversely. Celluliferous side unknown.

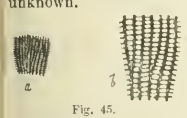


Fig. 45.

a Fragment of *Fenestella filiformis* [Nich.] natural size; *b* portion of the same magnified. From the Corniferous Limestone.

I have only fragments of this species, and none of these show the celluliferous aspect; but the proportions of the polyzoary are so entirely distinct from all other previously recorded species of the genus, that no doubt can be entertained as to its being new. It is very readily distinguished by its filiform and closely-set branches, by the unusual character that the fenestrules are markedly wider than long, and by the extraordinarily large number of fenestrules in a given space measured vertically.

Locality and Formation.—Corniferous Limestone, Lot 6, Concession 1, Wainfleet.

Genus Tæniopora (Nicholson).

Canadian Journal, Vol. XVI., No. 2, and *Geological Magazine*, March, 1874.

Polyzoary calcareous, composed of a flattened, linear expansion, which branches dichotomously and is celluliferous on both sides. Each side of the polyzoary (sometimes one side only?) is furnished with a strong median ridge or keel, which has a longitudinal direction, and separates the frond into two lateral halves. The cells have prominent mouths, and are arranged in from three to five longitudinal rows on each side of the central keel: the cells of contiguous rows alternating, so that a series of short oblique rows of cells are produced which diverge from the keel like the barbs of a feather. The margins of the polyzoary are usually plain and non-celluliferous, and the cells are not separated by longitudinal striæ or elevated ridges. No fenestrules are present, and the entire frond forms a continuous expansion within which the cells are immersed.

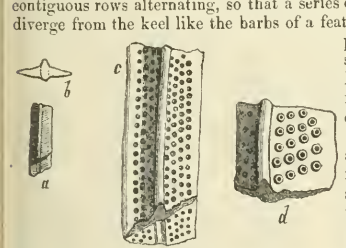


Fig. 46.

a. Fragment of *Tæniopora penniformis* (Nich.) natural size; *b*. Transverse section of the same enlarged; *c*. Fragment of the same enlarged; *d*. Fragment still further enlarged, showing the prominent mouths of the cells. From the Hamilton Formation.

Two species of *Polyzoa* which agree in the above characters are not uncommon in the Hamilton Formation of Western Ontario, and their structure appears to me to be sufficiently distinctive to entitle them to be considered as constituting a distinct genus, which I propose to call *Tæniopora*. The affinities of *Tæniopora* are clearly with *Ptilodictya*, and though there are some important points in the structure of the former which I have been unable to make out, I still think that the external characters of *Tæniopora* alone warrant generic distinction. One of the chief characters of *Ptilodictya* is the presence of a flattened laminar striated axis separating the two celluliferous aspects of the polyzoary. I have not been able to establish clearly either the presence or absence of such an axis in *Tæniopora*, but my specimens lead me to believe that it is absent, and that there is instead, a ver-

tical septum, traversing the short diameter of the frond, and prolonged on either side into keel. Leaving this point, however, out of the question, as uncertain, there remain the following differences:—1. In *Ptilodictya* the cells are not furnished with prominent mouths but with depressed apertures, and these are arranged in rows, which are separated by distinct thread-like elevated lines or striæ. On the other hand, the cells of *Tæniopora* have prominent pustuliform openings, and they are usually not separated by any lines or ridges of any kind. In some examples from the Hamilton group of the State of New York, the first row of cells on either side of the keel has a limiting thread-like line, but I cannot detect any such structure in our Canadian specimens; and even the former have the remaining rows of cells not marked off in this way. 2. There is no mesial keel or elevated ridge in *Ptilodictya*, separating the cœnœcium into two symmetrical lateral halves. On the other hand, the most conspicuous feature in *Tæniopora* is a strong elevated longitudinal carina on either side of which the cells are arranged in alternating lines. 3. Whilst some examples of *Tæniopora* show a distinct non celluliferous marginal zone on either side, as exists in *Ptilodictya*, others do not appear to possess any such structure; and in any case this zone appears, when present, to be smooth and not striated. Upon the whole, therefore, whilst recognizing the general affinities of *Tæniopora* to *Ptilodictya*, I think the former may safely be regarded as a distinct genus.

The following two species of *Tæniopora* have come under my notice as occurring in the Hamilton group; but as all my specimens are fragmentary, there are several important points connected with their structure, which I have found myself unable to elucidate. I have also specimens from the same formation in the State of New York, some of which appear to be identical with one of our Canadian species, whilst others present certain differences which may perhaps be of specific value.

132. Tæniopora exigua (Nicholson).

Tæniopora exigua (Nicholson), *Geological Magazine*, March, 1874.

Polyzoary forming flattened linear expansions, which branch dichotomously at angles of about 60° and at intervals of from one and a half to three lines. The width of the frond is about a line or a little over, and its thickness in the centre is about one-third of a line, from which point it rapidly diminishes in thickness, until the sharp-edged lateral margins are reached. Both sides of the cœnœcium carry a well marked longitudinal ridge or keel, which occupies a mesial position, and on either side of which are three or four longitudinal rows of cells. The cells are alternately disposed in contiguous rows, so as to form a series of short transverse obliquely ascending lines, consisting each of three or four cells. The cells are immersed in the substance of the cœnœcium, and their mouths are circular and prominently elevated above the general surface. About six cells occupy the space of one line measured longitudinally, and the intervals between them are equal to or slightly greater than the diameter of the cell-mouths themselves. The cells extend on either side of the midrib, quite to the edge of the cœnœcium, and there appears to be no marginal non-celluliferous zone.

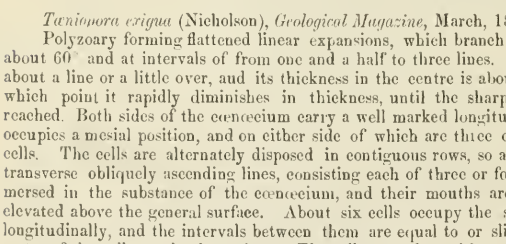


Fig. 47.

Tæniopora exigua (Nich). *a*. Portion of a frond, natural size; *b*. The same enlarged, the portion drawn in outline being conjectural; *c*. Portion of the same still further enlarged. From the Hamilton group.

From the following species, *Tæniopora exigua* is distinguished by its much smaller width, its more frequent division, its much less strongly elevated mesial keel, and the apparent absence of any distinct non-celluliferous marginal area. One specimen exhibits at the base a small conical expansion from which the branches proceed distally, and which terminates proximally in a singular, and clearly natural, circular perforation of about one-fourth of a line in diameter. There are also indications in this specimen (fig. 47*b*.) that the branches of the frond were bilaterally or

radially disposed round this central point. It is to be regretted, however, that, with the imperfect materials at my command, I am at present compelled to leave this and other points of interest in the structure of this remarkable form unelucidated.

Locality and Formation.—Common in the Hamilton group, at Bartlett's Mills, near Arkona, Township of Bosanquet. (Also common in the Hamilton Shales, at Canandaigua, State of New York.)

133. Tæniopora penniformis (Nicholson).

Tæniopora penniformis (Nicholson), *Geological Magazine*, March, 1874.

Polyzoary forming a linear flattened expansion, which probably divides dichotomously. The total width of the frond is about two lines, and its thickness in the middle is about two-thirds of a line, gradually tapering to the margin. Both sides of the cœnœcium (one certainly, and the other probably) are furnished with an exceedingly strong, blunt, mesial, longitudinal ridge or keel, the height of which is about a fourth of a line and its thickness about the same. On either side of the central keel are four rows of cells in alternating lines. The mouths of the cells are circular and prominent, about five or six occupying the space of one line measured longitudinally. Outside the rows of cells on either side is a plain non-celluliferous space, about one-third of a line in width, by which the margin is constituted.

In most of its essential characters, *Tæniopora penniformis* (fig. 46) agrees with *T. exigua*, but it is a much stronger and more robust form, with a broader and more elevated keel, and possessing a marginal non-poriferous area which appears to be wanting in the latter. I have only fragments of the species, and am unable to state anything as to its general form of growth or its total dimensions.

Locality and Formation.—Hamilton Formation, Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus Carinopora (Nicholson).

(*Canadian Journal*, Vol. XIV., No. 2, and Annals of Nat. Hist., Feb. 1874.)

Polyzoary infundibuliform, calcareous, and reticulated. The external layer of the cyathiform frond is composed of regularly undulated flexuous branches which anastomose with one another after the manner of a *Retepora* so as to form a series of oval fenestrules. Exteriorly, the branches are angulated or carinate and are smooth and non-celluliferous. Internally, each branch gives origin to an enormously developed keel or vertical lamina, which corresponds in direction with the branch and is directed inwards towards the centre of the funnel. The inner face of the branches thus presents a series of narrow, elevated parallel ridges separated by deep grooves at the bottom of which the cells open to all appearance. The fenestrules also open at the bottom of these grooves. These grooves, however, appear in parts of the frond to be rendered vesicular by means of a series of delicate calcareous laminæ which connect together the opposing sides of contiguous ridges. In some cases also, the inner ends of the ridges are connected together by a continuous calcareous membrane, so that the inner surface of the frond is completely closed. The cells are carried in alternating double rows upon the inner surface of each branch, their mouths appearing to be situated at the bottom of the grooves afore-mentioned and at the base of

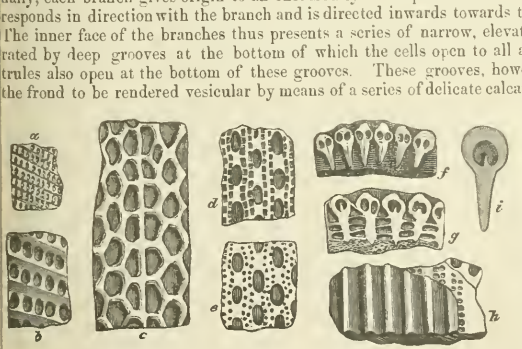


Fig. 48.

Illustrations of the structure of *Carinopora Hindei*, (Nich). *a*. fragment of the exterior, natural size; *b*. portion of the same enlarged; *c*. another fragment of the exterior, still further enlarged; *d*. a fragment from which the external non-celluliferous layer has been removed, showing the cells, enlarged; *e*. a fragment more deeply decorticated, showing the mouths of the cells, enlarged; *f*. and *g*. transverse sections of the frond, enlarged; *h*. a portion of the internal surface enlarged; *i*. transverse section of a single branch, enlarged. From the Corniferous Limestone.

the great keel which springs from each branch internally. No cells are carried by the areas formed by the anastomosis of contiguous branches

I have only seen a single, very large and well preserved example of this genus, and a careful examination of this has still left me entirely unable to elucidate and explain some of the most extraordinary structural featuresw hich it presents. There can, however, be no doubt as to the complete distinctness of the genus from any previously known. A comprehension of the very remarkable characters presented by this genus will perhaps be best obtained from a detailed account of the different figures of the above illustration, all of which represent different portions of the only known specimen.

a. This figure exhibits a portion of the exterior of the frond, showing the fenestrules and the outer non-celluliferous aspect of the branches. In the portion here illustrated of the natural size, and partially shown at *b* on an enlarged scale, the fenestrules are oval, and arranged in diagonal lines, and the branches are strongly keeled; the general appearance closely resembling the non-celluliferous aspect of *Retepora prisca* (Goldfuss), and the fenestrules being formed in the same way by the simple inoseulation of the branches, without the development of distinct dissepiments. *c.* This represents another portion of the exterior of the frond, near the base, where the fenestrules are polygonal and are not arranged in regular diagonal lines. In some cases, the fenestrules present the appearance of being closed by a delicate external membrane.

d. This figure shows a small portion from which the outer non-celluliferous layer of the branches has been stripped off, showing the proximal ends or bases of the cells, arranged in a double inoseulating row on each branch, and lying in the same plane as the fenestrules.

e. This figure exhibits, on an enlarged scale, a small portion of the exterior of the frond from which the outer non-celluliferous layer and the cells themselves have been stripped away, leaving to view the circular mouths of the cells arranged in two alternating rows, which are still in the same plane as the fenestrules, and which do not encroach upon the spaces formed by the inoseulation of the branches.

f. This figure is a greatly magnified representation of a transverse section of the frond at a point considerably removed from the base, showing the branches cut across. Above, the branches are separated by the fenestrules, and immediately beneath this are seen the dark oval spaces contained within the body of each branch, a pair in each, and representing the cavities of the biserial cells. Below this, again, each branch is seen to give origin to an immense vertical keel or ridge, which is directed inwards towards the interior of the frond. These ridges are separated by deep intervening grooves; and there can be doubt that the cells open at the bottom of these groves, those of one side of the branch opening on one side of the base of the great keel, and those of the other opening upon the opposite side of the same.

g. This exhibits a greatly magnified transverse section of the frond at a point a little above the base. As in the preceding, we can recognise without difficulty the shallow fenestrules, the divided branches carrying in their interior, each, a pair of cells, and the great internal keels. Here, however, we have two new features. Firstly, the deep grooves between the keels are sub-divided by delicate calcareous laminæ which connect the opposite side of contiguous keels, and divide the intervening grooves into shallow transverse chambers. Secondly, the grooves between the keels are closed internally by a continuous calcareous membrane, which has a minutely porous or vesicular structure.

h. This exhibits a fragment taken from near the base, and showing the internal surface. We see here the inner faces of the great longitudinal keels, separated by shallow grooves which are filled up by a continuous calcareous membrane, which is not penetrated by either the fenestrules or the cells. No apertures, therefore, of any kind appear on the interior of the frond near the base. In the upper portion of the frond, however, a fragment of the interior exhibits simply the great keels with deep intervening grooves, and the layer connecting the keels cannot be distinctly made out. At the right hand corner of *h*, the keels and their connecting membrane are broken away, and we see the cavities of the rows of cells; whilst the extreme corner is still further broken away, so that the fenestrules comes into view.

i. This simply represents a single branch in transverse section, greatly enlarged, and shows the cells in the interior of the branch, and the great triangular keel proceeding from its internal surface.

From the above description, it will be evident that the structure of *Carinopora* is quite anomolous, and wholly unlike anything that has been hitherto observed in any member of the

Fenestellidæ. The most anomalous point is the position of the cells, or rather their mode of opening on the surface. The frond is funnel-shaped, and the cells open towards the interior of the funnel, as in *Retepora*. Towards the upper portion of the frond, the cells seem to open simply at the bottom of the deep grooves between the internal keels, and the fenestrules open into the same grooves, and there is, therefore, no special difficulty here, if, as seems tolerably certain, the keels are not here connected by an imperforate connecting membrane, and the grooves thus remain open to the access of sea-water; near the base, however, the keels are clearly connected internally by a membrane which has no perforations in it, and the deep intervening grooves are filled up by a vesicular calcarous tissue, so that the sea-water could not have gained access to the mouths of the cells. The only explanation that I can offer, is that the basal portion of the polyzoary may perhaps have been gradually overgrown internally by this layer of vesicular tissue, and may thus have been practically killed, whilst the upper portion remained open to the sea, and genuinely alive. If this be not the case, I cannot explain the undoubted facts.

The enormous internal keels, whether free or connected together internally give an extraordinary depth and thickness to the polyzoary, and the fenestrules do not extend to more than about a fourth of this depth, nor do the cells. In *Hemitrypa* (Phill.) the fenestrules do not extend through the entire thickness of the polyzoary, but in this genus the fenestrules are confined to the *inner* surface of the funnel-shaped frond, and the cells open *externally*. In *Cryptopora* (Nich.) again, the outer and inner surface of the polyzoary are *both* imperforate, and the cells open internally into a central space which is crossed by regularly-placed pillars, having a direction perpendicular to the plane of the frond.

The following is the only species of the genus *Carinopora*, which has come under my notice :—

134. Carinopora hindei (Nicholson).

Carinopora Hindei (Nicholson), Annals of Natural History, Feb. 1874.

This being the only species of the genus, it is unnecessary to recapitulate its structural characters, since these, so far as known, have been fully discussed above. It only remains to give the measurements by which the species is distinguished, along with one or two characters which are not of generic value. The only known specimen exhibits a portion of a very large infundibuliform frond, which, though fragmentary, has a height of four inches, with a diameter above of clearly more than half a foot. The actual base is broken off. About six branches occupy the space of two lines. The fenestrules are sometimes oval, sometimes hexagonal or polygonal, and their arrangement differs in different parts of the frond. Sometimes they are arranged in regular diagonal lines; but even in this case there are often perceptible central longitudinal lines, on either side of which the diagonal rows of fenestrules diverge in opposite directions, like the barbs of a feather, giving rise to a most peculiar appearance. At other times the fenestrules are rhomboidal, hexagonal, or polygonal, and are not arranged in distinct diagonal rows; whilst two contiguous longitudinal rows are often separated by an unusually narrow and apparently quite straight branch (See Fig. 48 *c*). The spaces along which the flexuous branches inosculate have a depth of about half a line, considerably exceeding the width of the branches; so that whilst seven fenestrules occupy a quarter of an inch measured diagonally, only four occupy the same space measured longitudinally. The thickness of the frond, measured at right angles to its plane of growth, is one line or a little more, nearly two-thirds of this being accounted for by the great internal keels. Lastly, there are generally three cell-mouths to the length of a fenestrule, with two placed opposite the inosculation of each pair of contiguous branches.

The only known example of this singular species was discovered by my friend, Mr. George Jennings Hinde, by whom it was submitted to me for examination, and in whose honour I have named it.

Locality and Formation.—Corniferous Limestone, Jarvis, County of Walpole.

Genus Clathropora (Hall).

Polyzoary composed of membranous flattened expansions, which either branch without anastomosis, or, more typically, divide into branches which inosculate at short intervals till there is produced a broad frond perforated at regular intervals by rounded or oval fenestrules

of considerable size. Both sides of the polyzoary carry cells, but the cells which open upon one aspect are separated from those which open on the other side by a thin concentrically-striated laminar axis or membrane, precisely similar to the axis of *Ptilodictya*. In the clathrate species the margins of the apertures are surrounded by a strong striated non-celluliferous border.

There can be no doubt as to the very close relationship between *Clathropora* and *Ptilodictya*; and it may reasonably be doubted if the former can be retained apart from the latter. One of the chief characters of *Ptilodictya* is the presence of a thin striated membranous axis between the two series of cells on the two aspects of the cœnœcium. No such character appears to have been observed by Hall in *Clathropora*, or is alluded to in his description of this genus, and its absence would certainly be a sufficient ground for generic distinction. I have, however, determined the existence of a laminar axis exactly similar to that of *Ptilodictya*, both in a Corniferous species of *Clathropora* and in *C. frondosa* (Hall), from the Niagara Limestone, the type-species of the genus. The striated non-celluliferous margins of *Ptilodictya* are also represented by precisely similar margins surrounding the fenestræ in both *C. frondosa* (Hall), and in *C. interlexta* (Nich.) It would appear, therefore, that the chief difference between *Clathropora* and *Ptilodictya* is to be found in the fact that the cells of the latter are arranged in rows separated by distinct elevated lines, which certainly appears not to be the case in the typical species of the former, though the contrary is asserted by Hall. The mode of growth of *Clathropora* in itself clearly does not afford sufficient ground for generic distinction, and the more or less quadrangular form of the cell-mouths is certainly only an occasional phenomenon in the type-form *C. frondosa*. Upon the whole, therefore, whilst retaining *Clathropora* in deference to the opinion of such a high authority as Prof Hall, I am inclined to believe that the forms included under it may safely be placed under *Ptilodictya*.

The following species is the only one which has come under my notice as occurring in the Devonian Rocks of Western Ontario.

135. Clathropora intertexta (Nicholson).

Clathropora interlexta (Nicholson), *Geological Magazine*, March, 1874.

Polyzoary forming a thin flattened expansion, composed of broad branches which inosculate so closely as to leave simply rounded or oval apertures or fenestræ perforating the frond. The width of the branches is from a line to a line and a half; and the fenestræ are oval or circular in shape, about a line and a half or a little more in diameter, and placed at intervals of about a line or a line and a half. The margins of the fenestræ are surrounded by a striated non-celluliferous zone. The frond is celluliferous on both sides, forming two continuous layers, their proximal ends or bases being placed back to back, but separated by a delicate calcareous membrane or laminar axis, which exhibits numerous close-set transverse curved striæ. From six to ten cells occupy the space of a line measured diagonally, whilst the form of the cell-mouths is oval or circular, and the cells do not appear to be arranged in distinct lines separated by elevated striæ.

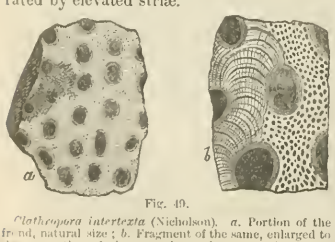


Fig. 49.

Clathropora intertexta (Nicholson). *a*. Portion of the frond, natural size; *b*. Fragment of the same, enlarged to show a portion of the central membranous axis. From the Corniferous Limestone.

Clathropora interlexta (Nich.) is closely allied to *C. frondosa*, a beautiful and not very rare species in the Niagara Limestone. In the latter species, however, in all the specimens that I have examined, whilst the width of the branches is much about the same as in *C. interlexta*, the inosculation is so effected as to leave very much smaller fenestræ, which have a diameter of only about half a line, and which look simply like little oval or circular perforations in the membranous cœnœcium. This is the case, also, with one of the specimens figured by Hall (Pal. N. Y., Vol. II., Pl. XL., B., fig. 5*b*.); but another example figured by the same (*Loc. cit.*, fig. 5*a*.), has much larger fenestrules, about the same in size as in *C. intertexta*, though more elliptical. This, however, can not be considered as belonging to the same species as Fig. 5*b*., with the smaller fenestræ; and as all the specimens I have seen, however large, agree with the characters of

this form, I should be disposed to regard this as the typical form of *C. frondosa* (Hall). In such examples of *C. frondosa*, further, as I have examined, the cells are remarkably long and narrow, and about fourteen of them occupy the space of one line measured transversely; whereas, in *C. intertexta* the cells have a sub-quadate or rounded form, with nearly circular mouths, and only six to eight of them occupy a line transversely. In spite, therefore, of the close general resemblance between *C. intertexta* and the two forms included under Hall's *C. frondosa*, I am inclined to think *C. intertexta* to be specifically distinct. If this should subsequently, by a comparison of specimens, be proved not to be the case, I should propose that the name of *C. frondosa* (Hall), should be restricted to the forms with the very small fenestræ (Pal. N. Y., Vol. II, Pl. XL., B., fig. 5*b*.), whilst the name of *C. intertexta* should be applied to the undoubtedly distinct forms with large fenestræ. In any case, as before remarked, both of these species of *Clathropora* might, without impropriety, be looked upon as nothing more than reticulated *Ptilodictyæ*.

Locality and Formation.—Corniferous Limestone of Jarvis, Township of Walpole. (Collected by Mr. George Jennings Hinde).

CHAPTER V.

LAMELLIBRANCHIATA PTEROPODA, AND GASTEROPODA—OF THE CORNIFEROUS AND HAMILTON FORMATIONS.

Lamellibranchiata.

Mr. Billings states, that he has met with about twenty species of *Lamellibranchiata* in the Corniferous Limestone of Western Ontario, and of these he names and describes one, viz., *Vanuxemia Tomkinsi* (*Canadian Journal*, New Series, Vol. VI., p. 357). This species I have not seen, and the only Lamellibranch which I have met with, either in the Corniferous Limestone or the Hamilton group, is the well-known *Conocardium trigonale* (Hall).

136. Conocardium trigonale (Hall).

Pleurorhynchus trigonalis (Hall), Rep. 4th Geol., Dist. New York, p. 272, figs. 6*a*, 6*b*., (not *Pleurorhynchus trigonalis*, Phillips).

Conocardium sub-trigonale (D Orbigny), Prodr., Vol. I., p. 80.

Conocardium trigonale (Meek), Gological Survey of Ohio, Palæontology, Vol. I., p. 201.

Shell trigonal, with the anterior extremity distinctly cordate. "Anterior side abruptly truncated, with a forward slope from the beaks to the more or less angular anterior basal extremity, and flattened, or sometimes even a little concave, near the outer margins, so as to meet the lateral surfaces at about right angles, or less, along the prominent, angular, umbonal slopes, which extend to the anterior basal extremity, and are produced forward in the form of a peculiar thin alation, that is most extended below; dorsal margin behind the beaks nearly straight and horizontal, or a little declining and slightly concave in outline with the edges of the valves incurved, while in front of the beaks it is more or less produced forward in the form of a narrow (beak-like ?) extension; basal margins of the valves strongly incurved and distinctly crenate within, nearly straight in outline, anteriorly and obliquely ascending, with a more or less convex outline posteriorly to near the hinge, below which they are widely gaping so as to form an ovate or sub-cordate hiatus, and present a slightly sinuous outline; posterior extremity (when not broken or worn away) distinctly angular at the termination of the hinge-line above; beaks moderately prominent, gibbous, and distinctly incurved nearly at right angles to the hinge, or with a very slight backward inclination. Surface ornamented by simple, regular, radiating costæ, separated by furrows of about the same size or less; costæ smaller and more crowded on the anterior flattened face of the valves than on the flanks behind the umbonal angle, and not defined on the anterior umbonal alation; crossing all of these markings, there are numerous fine, regular, crowded, concentric

lines, generally much more distinct in the furrows than on the ribs between them, and more or less marked on the anterior alations; a few stronger wrinkles of growth are also usually seen at more distant intervals, especially near the lower margins of the valves, where they are more crowded together, and present a zig-zag appearance in crossing the costæ and furrows. Length of a mature, rather short, gibbous specimen, from the anterior basal angle to the posterior extremity of the hinge, 1.32 inches; from beak to same, 0.65 inches; height of top of umbones, 0.72 inches; convexity of the two valves, anteriorly, 0.94 inch (Meek, Palæontology of Ohio, p. 201).

Fig. 50.

Conocardium trigonale (Hall); *a*. Side view of a medium sized, mature specimen, being mainly an internal cast, with the umbonal alations and the anterior beak-like appendage broken away; *b*. View of the under side of another specimen, retaining a portion of the alation (*al*), which extended at least as far forward as indicated by the dotted line. (After Meek).

Specimens of *Conocardium trigonale* appear to be common in parts of the Corniferous Limestone, but, so far, I have only met with exceeding fragmentary and broken specimens, though these can readily be recognised by their surface characters, and by the singular alations produced from the margins of the truncated anterior side. I have, therefore, contented myself with simply reproducing Meek's full description and a portion of his figures of this species. If *Pleurorhynchus trigonalis* (Phillips), be a valid species, and not identical with *Conocardium Hibernicum* (Sowerby), then the use of the specific name *trigonalis*, for the American form must be a abandoned, and D'Orbigny's designation of *sub-trigonale* will have to be adopted.

Locality and Formation.—Corniferous Limestone of Hagersville, Township of Oneida.

Pteropoda.

137. Tentaculites sp.

Under this head, I can simply note the occurrence in great abundance in the Hamilton group of a species of *Tentaculites*, which is probably not new, but which I am unable to identify with any species previously described, in consequence of my not having access to all the published descriptions of these fossils. In almost all respects it agrees with *Tentaculites annulatus* (Schlotheim) (=*T. scalaris* ibid), but the latter is described as having the surface covered with very minute *longitudinal* striæ, no such structures being visible in the former. On the contrary our species agrees with *Tentaculites ornatus* (Sowerby), in having the interspaces between the regular annulations ringed with from three to seven fine sharp encircling striæ. It is, however, apparently not identical with *T. ornatus*, as it seems to be a longer form, and to have the annulations more closely set. In the absence, however, of authentic specimens of either *T. annulatus* or *T. ornatus*, I can simply leave the specific determination of the Canadian form an open question.

Locality and Formation.—Very abundant in the Hamilton Formation, Arkona, Township of Bosanquet.

Gasteropoda.

The number of *Gasteropoda* in the Devonian Rocks of Western Canada is very considerable, and this is especially the case as regards the Corniferous Limestone. By far the majority of specimens, however, occur in the state of casts, with little or none of the original surface preserved, often crushed, or mutilated in different ways; and it is thus often impossible to determine their true affinities or to decide with certainly to what species they may belong. I have thus been compelled to leave altogether unnoticed a number of univalves of which nothing definite can be made with the materials at present in my hands; whilst the determination of these here recorded must be regarded as more or less doubtful and provisional. The only Gasteropod which has come under my notice from the Hamilton group is a *Platyceras*, and

several species of the same genus occur in the Corniferous Limestone. The latter formation also contains examples of the genera *Platyostoma*, *Strophostylus*, *Holopea* and possibly *Helicotoma*.

Genus PLATYCERAS (Conrad).

"Shells depressed, sub-globose, sub-ovoid, or obliquely sub-conical. Spire small; volutions few, sometimes free and sometimes contiguous, without columella; aperture more or less expanded, often campanulate and sometimes with the lip reflexed; peristome entire or sinuous. Surface striated or cancellated, often spirally ridged or plicate, and sometimes strongly lamellose transversely, nodose or spiniferous."—(Hall, *Pal. N. Y.*, Vol. III., p. 309).

The shells of the genus *Platyceras* are readily recognised by their obliquely spiral or straight shape, their wide aperture, their usually or always having a sinus in the outer lip, and the absence of a columella. They may be dextral or sinistral. The genus is identical with *Acroculia* (Phillips) over which it has the priority, and appears to be most nearly allied to the recent *Capulus*.

The following species of *Platyceras* occur in the Corniferous Limestone and Hamilton formation of Western Ontario; but their determination is rendered uncertain by the imperfect and ill-preserved condition in which they are found.

138. PLATYCERAS VENTRICOSUM (Conrad).

Platyceras ventricosum (Conrad), Ann. Rep. Pal. *N. Y.*, 1840, p. 206.

Platyceras ventricosum (Hall), *Pal. N. Y.*, Vol. III, Pl. LVI., Figs. 1, 4 & 8, and Pl. LVII, Fig. 4.

Platyceras ventricosum (Meek and Worthen), *Geology of Illinois*, Vol. III, Pl. XI, Figs. 4*a*, *b*.

Shell obliquely ovate, composed of two and a half or three volutions of which the last is extraordinary expanded and ventricose. The spire is depressed below the plane of the upper side of the body-whorl, and the inner lip is in contact with the spire. The surface is marked by fine transverse striæ, and near the aperture by coarse undulating lines or folds of growth.

I have one or two specimens, of which one is figured in pl. II., fig. 1, which consist of the body-whorl of a large *Platyceras* almost certainly to be identified with *P. ventricosum*. None of our examples, however, exhibit the spire.

Locality and Formation.—Corniferous Limestone of Port Colborne.

139. PLATYCERAS INTERMEDIUM (Hall)?

(Plate II., Fig. 2.)

"Shell arcuate, sub-spiral, making little more than two volutions, the last one free and becoming gradually straight. The apex is very minute, consisting of little more than a single volution, with the parts closely contiguous. Surface marked by fine lamellose transverse striæ, which are slightly undulated upon the body of the shell."—(Hall, *Pal. N.Y.*, Vol. III, p. 321, Pl. LVIII., Fig. II.)

Fig. 51.

Body-whorl of a species of *Platyceras* apparently identical with *P. intermedium* (Hall). From the Corniferous Limestone.

I possess two examples of the body-whorl of a species of *Platyceras* from the Corniferous Limestone, of which all I can assert is that they are of the *type* of *P. intermedium* (Hall), if not absolutely belonging to the same species. Both consist of the slightly curved and greatly expanded body-whorl, the lip of the aperture being markedly undulated, and the surface exhibiting numerous close-set transverse striæ, which are undulated to correspond with the sinuous aperture, and are very closely arranged near the aperture is nearly round.

Locality and Formation.—Corniferous Limestone of Port Colborne.

140. PLATYCERAS, sp.

(Plate II., Fig. 6.)

Our collection includes a single very well preserved specimen of the body-whorl of a *Platyceras* of the *type* of *P. bisulcatum* (Hall). It is apparently new, but with such meagre materials I do not venture to describe it. The body-whorl is free, and the apex has evidently been small, and has apparently been sinistrally rolled up. The aperture is expanded, and the tip is strongly sinuated. Along the convex side of the body-whorl run two longitudinal furrows, of which one is very deep, whilst the other is quite shallow and obscure. Between these is a strong rounded longitudinal ridge or plication. The entire surface is marked with strong, close-set, lamellose, transverse striæ, which do not become any stronger towards the aperture than they are near the apex.

Locality and Formation.—Corniferous Limestone, Lot 6, Con. 1, Wainfleet.

141. PLATYCERAS, sp.

(Plate II., Fig. 7).

This is a much crushed specimen resembling *P. tenuiliratum* (Hall), but the true affinities of which cannot be determined. It consists of two or three volutions, the first and second being extremely minute, and the body-whorl being greatly expanded and lengthened. The minute, inrolled apex is not two lines in diameter, whilst the elongated body-whorl has a length of nearly an inch and a half. The specimen is decorticated, and the surface-characters cannot be made out.

Locality and Formation.—Corniferous Limestone, Ridgeway.

142 PLATYCERAS UNISERIALE (Nicholson).

(Plate II., Fig. 5.)

Spire small, unknown, but evidently of few volutions. Body-whorl very large, ventricose, expanded towards the aperture. Aperture rounded, its margin sinuated. The margin of the aperture is somewhat oblique, and the spire would appear to have been in contact with the body-volution. The convex aspect of the body-whorl carries upon one side, not mesially, a single row of large remote spines. Surface marked with tolerably conspicuous transverse striæ, which become stronger towards the aperture, and also with very fine longitudinal striæ.

I have only a single specimen of this singular form, but its characters are so distinct from those of any species of *Platyceras* known to me, that I feel justified in describing it as a new species. The specimen exhibits only the body-whorl, with the margin of the aperture and the commencement of the spire. The most noticeable feature, apart from the surface-ornamentation, is the existence of a single row of spines upon one side of the body-whorl, these spines being of large size, and placed very far apart. The specimen only shows two of these spines, and only the bases of these, but they have a diameter of a line and a half, and are placed at four lines apart. As almost the entire surface of the body-whorl is shown, and as the shell itself is preserved, it is certain that no other spines could have been present except those belonging to this series. It thus differs very materially both from the Devonian species of *Platyceras*, with spines irregularly disposed over the whole surface, and also from the carboniferous species, *P. biseriale* (Hall), in which the body-whorl is provided on *both* sides with a row of long spines.

Locality and Formation.—Corniferous Limestone, Port Colborne.

143. PLATYCERAS DUMOSUM (Conrad) ?

A small spiniferous species of *Platyceras* is not uncommon in the Hamilton Formation of Western Ontario, which belongs to the group of which *P. dumosum* (Conrad) is the type, and which appears to be in all probability a variety of this variable species. It is much

smaller than the *typical* forms of *P. dumosum*, and also carries much fewer spines. Upon the whole it seems to be most like *P. dumosum*, var. *varispinum*, Hall (Fifteenth Report on the State Cabinet, . 38), though it never appears to attain anything like such a size. It al somewhat resembles *P. dumosum*, var. *attenuatum*, Meek (Palæontology of Ohio, Vol. I. Pl. XX., Figs. 2 *a*, *b*.)

a *b*

Fig. 52.

Different views of a small *Platyceras* (*P. dumosum*, var. *varispinum*, Hall?) from the Hamilton Formation. Natural size.

The shell in our specimens is always of small size, never appearing to exceed three quarters of an inch in length, and is composed of about two volutions. The apex is small, closely enrolled, and in contact with the body-whorl till close to the aperture. The body whorl is greatly expanded, the aperture patulous, oval, or rounded, with a diameter of about half an inch, and having the lip strongly sinuated. The surface is marked with fine close-set transverse striæ, which are stronger and are undulated towards the aperture. The body-whorl carries eight to twelve or more strong tubular spines, which are arranged in somewhat irregular longitudinal lines. It is quite possible that our shells are new, as they do not appear to correspond exactly with any previously recorded form ; but, in the present condition of the genus *Platyceras*, it would be unsafe to give it a separate title.

Locality and Formation.—Common in the Hamilton Formation, Arkona, Township of Bosanquet.

Genus Platyostoma (Conrad).

The shells of this convenient but hardly definable genus are ventricose, with a short, depressed, or very moderately elevated spire, and an extremely expanded body-whorl. The aperture is very large, and the columellar lip thickened.

Specimens which appear to have all the characters of *P. ventricosa* (Conrad), from the Lower Helderberg and Oriskany Sandstone, are not uncommon in the Corniferous limestone of Ontario; but they occur entirely in the condition of casts, and do not, therefore, permit of anything further than their mere identification.

144. Platyostoma ventricosa (Conrad).

(Plate II., Fig. 4.)

Platyostoma ventricosa (Conrad), *Jour. Acad. Nat. Sci., Philadelphia,* Vol. VIII., p. 275.

Platyostoma ventricosa (Hall), *Pal. N. Y.*, Vol. III., p. 300, Pl. LV., and p. 469, Pls. CXII., CXIII. and CXV.

"Shell globose, or depressed globose, and often obliquely ovoid, varying in form. Spire moderately elevated, consisting of three or four volutions, the last of which is extremely ventricose : volutions flattened upon the upper side ; aperture circular or subovate ; columellar lip reflexed. Surface marked by fine closely arranged striæ parallel to the lines of growth." (Hall, *loc. cit.*, p. 469.)

Casts apparently belonging to this species are far from uncommon in the Corniferous Limestone of Ontario, and I have figured one of the best that I have seen (Plate II., fig. 4). In form and dimensions the specimens differ considerably. but they all agree in the moderately elevated spire, ventricose body-whorl, and simply striated surface. The specimen figured has the body whorl less convex below than is usual in this species as figured by Hall, and its dimensions are as follows:—Height one inch and a half (in reality somewhat over this) ; breadth two inches and two lines; height of aperture, sixteen lines; width of aperture, seventeen lines. Many of the examples, however, have dimensions smaller than the above.

Locality and Formation.—Corniferous Limestone, Port Colborne.

Genus Strophostylus (Hall).

Shell with a depressed or moderately elevated spire, and an expanded and ventricose

body-whorl, which does not become free at the aperture. A distinct columella is present, and this has a peculiar twisted form or is spirally grooved. No umbilicus. Outer lip thin.

The typical species of *Strophostylus* are recognised by their thin shell, commonly expanded round or oval aperture, surface with simply concentric lines, and twisted columella. The last character, however, is one which is very rarely available, and it may, therefore, be left out of consideration. The surface ornamentation is likewise not constant, for whilst consisting in the typical species of transverse striæ alone, Hall has described species with longitudinal or revolving striæ in addition, and the *Strophostylus? cancellatus* of Meek and Worthen has a regularly cancellated surface. In these cases, the shell comes closely to resemble *Cyclonema* and some species of *Holopea*, and, if the columella can not be observed, the determination must rest upon the general form of the shell, which has a depressed or slightly elevated spire and a greatly expanded body-whorl and aperture in *Strophostylus*, whereas in the two last-mentioned genera the shell is more elevated and turbinate and the body-whorl is only moderately large. It is quite possible that these differences may often prove deceptive, but in the numerous fossil Gasteropods in which the mouth can not be observed, it is difficult to point to any other characters by which a generic determination may be effected.

In the Corniferous Limestone of Ontario occur two or three species of Gasteropods which have the general form of *Strophostylus* with the cancellated surface of *Cyclonema* or *Holopea* (in part). The true affinities of these, owing to their imperfect preservation, can not be made out; but, in accordance with the considerations above brought forward, I shall in the meanwhile refer them provisionally to *Strophostylus*. I have not been able to identify any of these with previously-recorded species, and have, therefore, been compelled reluctantly to describe them as new. As many of the descriptions of the known species are, however, very incomplete, it is quite possible that they are not really new.

145. Strophostylus? sub-globosus (Nicholson).

(Plate II., Fig. 3).

Shell globose, thick, with a depressed spire which is hardly elevated above the upper surface of the body-whorl, except close to the aperture. Volutions three, very rapidly increasing in size, convex, the body-whorl enormously expanded and somewhat flattened on its upper surface. Height one-third less than the width. Sutures not canaliculated, and hardly marked at all except between the body-whorl and the spire near the aperture. Aperture large, nearly circular, the outer lip meeting the volution above at considerably less than a right angle, and not extending any further forward than the margin of the aperture below. Outer lip apparently not reflected; inner lip callous; apparently no umbilicus. Surface with numerous revolving thread-like striæ, of which five occupy the space of one line, and which are crossed by elevated thread-like transverse striæ, which are directed obliquely backwards, and of which about three occupy the space of one line, thus giving rise to a system of oblong cancelli.

Height of specimen fourteen lines; width, twenty-two lines; height of aperture, thirteen lines; width of aperture, thirteen lines.

From *S. globosus* (Hall), the present species is separated by its larger dimensions, its non-canaliculated suture, and its much more distinct cancellation. From *Strophostylus? cancellatus* of Meek and Worthen, it is separated by the fact that the outer lip does not meet the volution above at a right angle, and is not prolonged further forward than the lower margin of aperture, whilst the shell appears to be much larger and more globose, and the cancellation is more distinct and pronounced.

Locality and Formation.—Corniferous Limestone, Port Colborne.

146. Strophostylus? ovatus (Nicholson).

(Plate II., Fig. 10).

Shell transversely elongated or ovoid, the height being to the width as three to five. Spire small, moderately elevated; volutions three, regularly convex; the sutures apparently linear, and not canaliculated; the body-whorl ventricose and especially dilated near the

aperture. The aperture transversely oval, sub-elliptical; the outer lip not reflected, and meeting the volution above nearly at right angles, but not prolonged further forward than the lower margin of the aperture. No umbilicus. Surface cancellated with numerous revolving and transverse thread-like striæ, the former about seven and the latter three or four in the space of one line. Between the concentric striæ are numerous finer striæ, having the same direction, but so delicate that they can only be detected by the use of a high magnifying power. On the columellar side of the aperture the transverse striæ radiate from a point, the revolving striæ running nearly parallel with the inner lip, and the cancelli are nearly square, whereas elsewhere they are oblong. The transverse striæ have a most peculiar and characteristic curvature; springing from the suture above, they are directed obliquely backwards with a dorsal concavity; they then make a great curve of which the convexity is directed dorsally, and which is situated on the lateral aspect of the whorl, and then finally they are again curved in the opposite direction, so that their convexities are directed towards the aperture. Whether the form of the outer lip conforms to this curvature of the concentric striæ has not been determined.

Height of specimen, twelve lines; breadth, twenty lines. Height of aperture ten lines; width of aperture, fourteen lines.

This species, whether rightly referred to *Strophostylus* or not, appears to be distinguishable by its peculiar form and the characters of its surface-ornamentation.

Locality and Formation.—Corniferous Limestone of Port Colborne

147. Strophostylus obliquus (Nicholson).

(Plate II., Figs. 11, 11*a*).

Shell obliquely elliptical, its height being to its width nearly as one to three. Spire small, slightly elevated; volutions three or four, rapidly increasing in diameter; the body-whorl greatly expanded. The volutions of the spire are simply rounded and convex, but the body-whorl is obliquely flattened above, so that its upper surface joins the volution above, almost at an angle of 180.° Sutures obscurely canaliculated. Under surface slightly hollowed out; a small umbilicus. Aperture obliquely ovate, slightly angulated above; its height nearly double its width; the outer lip thin, the columellar lip unknown. Surface cancellated with strong revolving striæ, and much finer and more closely-set transverse striæ.

Height of specimen, about eight lines; width, eighteen lines; height of aperture, fourteen lines; width of aperture, nine lines or less.

This species is distinguished from all other species of *Strophostylus*, both by its surface-characters and by its very peculiar obliquely-elongated form. It would seem to be somewhat allied to *S. transversus* (Hall), but as the columella is not known, its reference to *Strophostylus* is rendered doubtful.

Locality and Formation.—Corniferous Limestone, Port Colborne.

Genus Holopea (Hall).

"Shell conical, ventricose, more or less oblique or nearly direct; aperture round-ovate; margin entire; surface marked by simple fine curved striæ, or cancellated" (Hall, *Pal. New York*, Vol. I., p. 169).

The limits of the genus *Holopea* can hardly be rigidly defined as far as our present knowledge goes. In general form *Holopea* is closely similar to *Cyclonema*, and the characteristic surface-ornamentation of the latter is sometimes present in the former. An umbilicus appears to be usually present in *Holopea*, and is universally absent in *Cyclonema*, but it is sometimes wanting in the former genus also. From *Strophostylus*, the genus *Holopea* is distinguished by its more elevated spire, its turbinate form, and its less ventricose body-whorl and less expanded aperture.

The following species from the Corniferous Limestone of Ontario may be referred, at any ate provisionally, to the genus *Holopea*.

148. Holopea Eriensis (Nicholson).

(Plate II., Fig. 9).

Shell turbinated, with a large ventricose body-whorl. Apical angle 90°. Volutions nearly four; spire small, elevated; all the whorls convex, and the body-whorl very strongly rounded, and ventricose. Sutures deep. Aperture broad ovate, or sub-circular; the outer lip bent inwards towards the base; the peristome thick, and either entire or only confluent with the columella for a short distance. A minute umbilicus (?). Surface with no spiral band, but with revolving thread-like striæ, about eight of them in the space of one line. No transverse striæ.

Height of specimen eight lines, of which the spire occupies less than two lines; width (including the aperture) ten lines. Height of aperture five lines; width the same.

This form is allied to *Holopea Guelphensis* and *H. Gracia* (Billings), but is a smaller form than either. I cannot identify it with any previously recorded form, and have therefore described it as new.

Locality and Formation.—Corniferous Limestone, Ridgeway.

Genus Helicotoma (Salter).

The name *Helicotoma* was proposed by Salter for a group of shells which he believed to form a sub-genus of *Scalites*, and to be distinguished by their depressed discoid form, their nearly flat spire, the obtuse angulation of the whorls externally, their broad umbilicus, and their cirrhoid or helicoid form. In the typical species the umbilicus is wide, and the aperture is deeply notched above; but the latter feature does not appear to be constant. So far as is certainly known, the genus is exclusively Upper Cambrian and Lower Silurian

It is with extreme doubt that I refer any Devonian shell to this genus, but the Corniferous Limestone has yielded casts of a shell which agrees in all respects with such a form of *Helicotoma* as *H. eucharis* (Billings), except in the small size of the umbilicus, and which I can not at present refer to any other recognised genus. In the meanwhile, therefore, I shall describe the following species under *Helicotoma*, though it is exceedingly probable that better examples will show that this is not its true generic position.

149. Helicotoma serotina (Nicholson).

(Plate II., Figs. 8, 8*a*).

Shell small, of three or four volutions, which increase gradually in size to the aperture. Spire depressed, almost perfectly flat, the upper surface of the body-whorl lying on the same plane as the spire. Upper side of the body-whorl sloping slightly to the suture. All the whorls are angulated above, so that the shell slopes from the margin of the discoid upper surface all round to the centre of the base. Aperture large, sub-rhombic, the outer angle not notched (?), the inner angle prolonged much further inwards than the upper; umbilicus small, with steep sides, not exposing the whorls within.

Surface with numerous, close-set, revolving striæ, and exhibiting (in the cast) no traces of a spiral band.

Height six lines; width one inch; height of aperture six lines; from the inner to the outer angle eight lines; width five lines. Diameter of umbilicus one line.

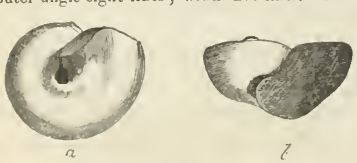


Fig. 53.

a Under surface of *Helicotoma*? *serotina* (Nich.), showing the minute umbilicus; *b*. Front view of the same. From a natural cast from the Corniferous Limestone.

I have been greatly puzzled where to locate this singular fossil. But for the marked angularity of the whorls on their external and superior margin and the apparent complete absence of a band, I should certainly have considered the species as being a discoidal form of *Pleurotomaria*. As it is, the general form of the shell is singularly like that of *Helicotoma* or *Raphistoma*, and it may be that it is to the latter of these types that it should be referred, since its umbilicus is very small. These, however, and all the

other forms allied to *Scalites*, are essentially Primordial and Lower Silurian. The two or three specimens that I have seen are simply casts, with mere fragments of the actual shell adhering to them, and it must at present remain doubtful to what generic group they really belong.

Locality and Formation.—Corniferous Limestone, Port Colborne.

CHAPTER VI.

Annelida and Crustacea of the Corniferous and Hamilton Formations.

Annelida.

The remains of Annelides, though far from uncommon in the Devonian Rocks of Ontario, are entirely referable, so far as I have seen, to the genera *Spirorbis* and *Ortonia*, though there are indications of the existence of genuine *Serpulæ* or *Vermiliæ*. Of the two species of *Spirorbis* which have come under my notice, one is the *S. omphalodes* of Goldfuss, a form which occurs in the Devonian of Europe, whilst the other I cannot identify at present with any recorded form. The genus *Ortonia* is apparently represented by one species, which appears to be new.

Genus Spirorbis (Daudin).

Tube calcareous, solitary, coiled into a flat spiral, which may be dextral or sinistral, and which is attached by one flat surface to some foreign object. The genus appears to have commenced its existence in the Silurian period, and is well represented by living species in existing seas.

150. Spirorbis omphalodes (Goldfuss).

Serpula omphalodes (Goldfuss), Petref. Germ. Pl. LXVII., Fig. 3.

Tube dextral, of two and a half turns, the outer side of each turn being somewhat flattened, and the upper edge obtusely angulated or gently rounded. Diameter, when adult, about a line and a quarter, height about one-third of a line, the diameter of the slightly upturned mouth nearly half a line. The last turn of the tube is much the largest, and a well-marked umbilicus is present, though the turns are contiguous. Surface smooth, and without ridges or tubercles of any kind.

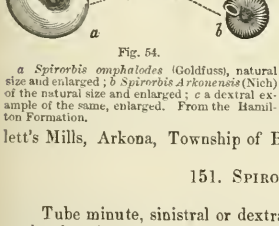


Fig. 54.

a Spirorbis omphalodes (Goldfuss), natural size and enlarged; *b Spirorbis Arkonensis* (Nich) of the natural size and enlarged; *c* a dextral example of the same, enlarged. From the Hamilton Formation.

There can be no hesitation in identifying this species with the European form, with which it agrees in its form, size, and proportions, and in the characters of the surface. It occurs in the Corniferous Limestone in the form of casts of the tube, adhering to the corallites of *Diphyllum arundinaceum*; and it is common in the Hamilton group, growing upon *Heliophyllum Halli*, *Cystiphyllum vesiculosum*, *C. Americanum*, and occasionally *Spirifera mucronata*.

Locality and Formation.—Corniferous Limestone, Lot 6, Con. 1, Wainfleet. Hamilton Formation, Bartlett's Mills, Arkona, Township of Bosanquet, and Widder.

151. Spirorbis Arkonensis (Nicholson).

Tube minute, sinistral or dextral, of two turns, rounded, and somewhat globular owing to the elevation and large size of the last turn. Aperture circular, usually turned upwards. Diameter of the entire spiral about a third of a line, never exceeding half a line. Surface marked with numerous very closely-set thread-like transverse annulations or ridges, which are not separated by more than their own width. A minute umbilicus is present.

I cannot identify this pretty little form with any previously recorded. It presents the peculiarity that individuals in other respects precisely similar (Fig. 54 *b,c*) are sometimes dextral and at other times sinistral, the latter being the commonest upon the whole. The terminal portion of the tube is sometimes non-adherent and elevated above the surface, and the species is very readily recognized by its minute size, and its surface-ornamentation. It appears to be quite distinct from *S. angulatus* (Hall), which, so far as I am aware, is the only species yet recorded from the Hamilton Formation. It occurs in great abundance attached to the exterior of species of *Heliophyllum* and *Cystiphyllum*, and also occasionally attached to Brachiopods.

Locality and Formation.—Hamilton Formation, Bartlett's Mills, near Arkona, Township of Bosanquet.

Genus ORTONIA (Nicholson).

Animal solitary, inhabiting a calcareous tube, which is attached along the whole of one side to some foreign body. Tube slightly flexuous, conical, in section cylindrical, or somewhat flattened laterally and sub-triangular; surface marked with encircling ridges or annulations which may be confined to the lateral surfaces of the tube, or which pass completely round it.

The only recorded species of the genus are *Ortonia conica* (Nich.), *O. minor* (Nich.), and *O. carbonaria* (Young), the first two from the Lower Silurian, and the last from the Carboniferous Rocks. It is, therefore, interesting to find a species of the genus in the Devonian Rocks, thus occupying an intermediate position in point of time as regards the species already known.

152. ORTONIA INTERMEDIA (Nicholson).

Tube conical, straight or flexuous, attached by the whole of one surface to some foreign body. Length, when fully grown, from a line and a half to two lines; diameter of the aperture somewhat less than a line. Surface marked with strong encircling, sometimes lamellose annulations or ridges, of which there are about eight or ten in the space of one line near the mouth, but more than twice the number in the same space towards the closed end of the tube. Sometimes, the annulations are extended into wing-like prolongations (Fig. 55*b*.) on the latero-inferior aspects of the fossil, and the tube is attached by means of these to the surface to which it is adherent; and in all cases they are more pronounced on the sides than on the aspect opposite to the surface of attachment.

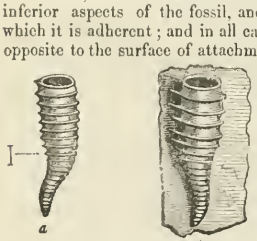


Fig. 55.

Ortonia intermedia (Nich.) *a*. One of the tubes enlarged; *b*. another example, in which the annulations are greatly extended laterally, enlarged. From the Hamilton Formation.

Ortonia intermedia is distinguished from the other species of the genus by good and easily recognized characters. Some examples, indeed, exhibit a structure which has not otherwise been clearly detected in the genus—namely, that the tube is made up of a succession of imbricating conical segments, the upper edges of which produce the encircling ridges or annulations. A somewhat similar structure is seen in *Cornulites* and *Conchicolites;* but in these genera, the segments of the tube are *inversely* conical, or, in other words, have their smaller ends directed towards the mouth of the tube. Hence in these genera the annulations of the tube are produced by the *lower* edges of the segments.

In *Ortonia intermedia* on the other hand, in some examples at any rate, the tube is composed of a series of short imbricating conical segments, the *larger* ends of which are directed towards the aperture; and it is, therefore, the *upper* edges of the segments which form the annulations.

The species to which *O. intermedia* is most closely allied is *O. minor* (Nich.), but the tube is not so strongly bent towards its closed extremity; it is upon the whole a decidedly larger and more robust form; and the annulations are considerably more remote and stronger.

O. intermedia occurs attached to the exterior of various species of *Cystiphyllum* and *Heliophyllum;* and it is always strictly solitary, though three or four individuals often occur within a space of a few lines.

Locality and formation.—Not uncommon in the Hamilton Formation, Bartlett's Mills, near Arkona, Township of Bosanquet.

Crustacea.

The remains of *Crustacea* are not uncommon in both the Corniferous Limestone and the Hamilton Formation of Western Ontario; but they are for the most part ill-preserved and fragmentary, and I have only been able to identify with certainty the well known species, *Proetus crassimarginatus* (Hall), *Phacops rana* (Green), *Dalmanites Boothii* (Green), and *Leperditia (?) punctulifera* (Hall). Besides these, our collection includes fragments of some five or six additional species of Trilobites, which must be retained for further examination.

153. Proetus crassimarginatus (Hall).

Calymene crassimarginatus (Hall), Geol. Rep. Fourth Dist. New York, p. 172, fig. 5.
Phillipsia (?) crassimarginatus; cited by Billings, *Can. Journal*, Vol. VI. p. 362.
Proetus crassimarginatus (Hall). Fifteenth Report on the State Cabinet, p. 100.

This familiar species is chiefly known by its pygidium, which is a common fossil in the Corniferous Limestone. The pygidium is somewhat wider than long, very convex, and margined by a thick concentrically-striated border, whence the specific name is derived. The axis is strongly convex and prominent, with thirteen or fourteen rings; and the lateral lobes are also very convex, and exhibit from twelve to thirteen ribs (Fig. 56). Along with the tails, occur sometimes exceedingly convex and prominent glabellæ and also free cheeks, both of which probably belong to this species.

Locality and Formation.—Corniferous Limestone, Ridgeway, Port Colborne, Lot 6, Con. 1 Wainfleet, and Hagersville.

154. Dalmanites Boothii (Green).

Cryphæus Boothii (Green), Silliman's Am. Jour. of Science, Vol. 32, p. 344.
Cryphæus calliteles (Green), Ibid., p. 346.
Dalmanites Boothii (Hall), Fifteenth Report on the State Cabinet, p. 91.

The tail of this pretty little species (fig. 56*c.*), which is commonly known by the name of *Dalmanites calliteles*, is a by no means very rare fossil in the Hamilton Formation of Ontario. The pygidium is semicircular, with a moderately prominent, tapering axis, which, when complete, exhibits from nine to twelve rings. The lateral lobes are depressed, and exhibit five or six pleuræ, the extremities of which are prolonged beyond the margin in the form of so many obtusely-pointed processes or expansions which are gently curved backwards. Between the lateral groups of these processes, occupying the centre of the pygidium is a wider and shorter pointed process extending backwards from the rounded extremity of the axis. The entire surface is ornamented with minute papillæ or granules.

Locality and Formation.—Hamilton group, Widder, and Bartlett's Mills, near Arkona, Township of Bosanquet.

155. Phacops rana (Green).

Calymene bufo, var *rana* (Green), Monograph, p. 42.
Phacops rana (Hall), Fifteenth Report on the State Cabinet, p. 93.

This well-known species is chiefly represented by detached heads, though the pygidium is not of very uncommon occurrence, and the body-rings are occasionally seen. The cephalic shield (fig. 56*a.*) is nearly semicircular, and the posterior angles are slightly produced backwards. The glabella is very gibbous, but somewhat depressed on the upper surface; about one-third wider than long; the lobes obscurely marked out; the neck-furrow narrow but well-defined; and the neck-segment wide and conspicuous. The eyes are large and prominent, rising nearly as high as the top of the glabella, with large lenses. The thorax is one-third longer than the head, its sides nearly straight, and its axis about as wide as the lateral lobes, or nearly so. The pygidium is twice as wide as long, or wider, regularly rounded behind,

Fig. 56.

a. Phacops rana Green, (head shield); *b.* Pygidium of *Proetus crassimarginatus* (Hall); *c.* Pygidium of *Dalmanites Boothii* (Green).

with from eight to ten segments. The entire surface is covered with rounded granules, which are of larger size on the anterior lobe of the glabella than elsewhere.

Locality and Formation.—Hamilton Formation, Widder, and near Arkona, Township of Bosanquet.

156. Cythere ? punctulifera (Hall).

Beyrichia punctulifera (Hall), Fifteenth Report on the State Cabinet, p. 111.

"Carapace valves minute, semi-oval, almost equilateral, the anterior end very slightly narrower, convex and abruptly bending downwards to the dorsal margin; marginal rim well-developed, and sharply elevated on the ventral and lateral margins. The surface at the more prominent part above the centre, and just at the bending downwards towards the dorsal margin, is marked by two very prominent nodes, which are nearly equi-distant from the margins and from each other. The entire surface is punctate with minute rounded pits." (Hall, *Loc. cit*).

Hall states that this is the most abundant of the *Ostracoda* of the Hamilton group, and I can hardly doubt that it is identical with a pretty little carapace, which is of very common occurrence in the Hamilton shales of Bosanquet, and which has the same punctated surface and marginal rim. If this be the case, however, the species can hardly be referred to *Beyrichia*, and our specimens differ in some important respects from Prof. Hall's description. The form is not semi-oval, but somewhat elliptical, with a long diameter of about one line and a short diameter of half a line, and having the posterior extremity markedly broader than the anterior. The dorsal margins are rounded, not straight, and the nodes alluded to by Hall are very obscure.* The surface, on the other hand, is covered entirely with exceedingly minute pits. On looking at the surface-characters of this species, one can hardly help speculating as to whether it may not have been the larval form of a Trilobite, like *Dalmanites Boothi* or *Phacops rana*, though the nature of ornamentation is far from being precisely the same.

Locality and Formation.—Common in the Hamilton Formation, Widder, Township of Bosanquet.

CHAPTER. VII.

APPENDIX.

157. Aulopora (?) Canadensis (Nicholson).

Alecto (?) Canadensis (Nicholson), *Canadian Naturalist*, Vol. 7, No. 3.

I originally described this fossil from casts obtained from the Corniferous Limestone, and I referred it with doubt to the Polyzoan genus *Alecto*, giving the following description of it:—

* On looking at the specimens of this species from the Hamilton Shales of Canandaigua, I find some to exhibit well marked nodes, whilst others, which in other respects appear to be precisely the same, agree with our Canadian examples in being either destitute of nodes or exhibiting them very obscurely.

"Polyzoary adnate, attached parasitically to the exterior of corals, branching in an irregularly dichotomous manner. Cells in reality uniserial, but so disposed by the turning of each cell-mouth to alternate sides as to look as if bi-serial. The terminal portion of each cell bent outwards; the aperture circular. The cells tubular, elongated, slightly or not at all expanded and not at all elevated towards their apertures. Five cells in the space of two lines; width of cell about one-fiftieth of an inch near the mouth.

"I have considerable doubts as to the affinities of this extraordinary little fossil; but I think it is certainly one of the Cyclostomatous Polyzoa, and I see at present no better course than to refer it to *Alecto*, Lamoroux. When not examined closely, the fossil presents a striking resemblance to a Sertularian Zoophyte, exhibiting exactly the appearance of a number of tubular calycles or cells springing alternately from the two sides of a common canal or stem. When minutely looked into, however, it is seen that this is deceptive, and that the fossil consists really of an alternate or sub-alternate series of long, tubular, slightly flexuous cellules, each cell being nearly cylindrical, and having the terminal portion geniculated or bent outwards, in such a manner that the mouths of successive cells point in opposite directions.

"The difficulty in determining the systematic place of this fossil is much increased by the fact that it occurs solely in the forms of casts, ramifying in the walls of moulds from which corals have been removed. It is, therefore, impossible to determine what was the texture of the cœnœcium, whether calcareous or corneous; whilst the lines of division between the cells, where they come in contact with one another, are only very faintly and obscurely indicated. The form of the aperture of the cell appears to have been circular, and its position terminal; but some uncertainty attaches to both of these statements"

Since writing the above, I have obtained specimens of the same fossil from the Hamilton group, in which the actual corallum itself is preserved, and these seem to show that the species is truly referrible to *Aulopora*, though certainly unlike the typical species of the genus.

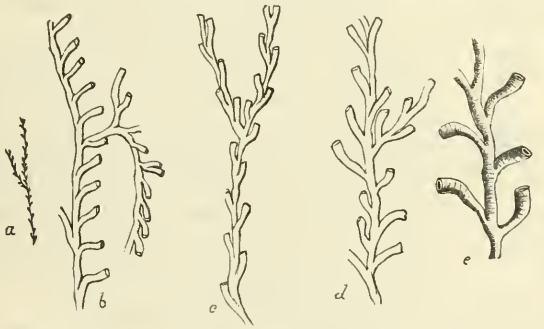


Fig. 57.

Aulopora (?) *Canadensis* (Nich.); *a*. A fragment natural size; *b*. Cast from the Corniferous Limestone, in which uniserial arrangement obtains, enlarged; *c*. Cast from the Corniferous Limestone, in which a biserial arrangement obtains *d*. A portion of the actual coral, from the Hamilton group, enlarged; *e*. A fragment of the last still further enlarged.

The examples from the Hamilton group have the form of branching calcareous corals which are adherent by the whole of one surface to some foreign body. The tubes are semi-cylindrical or sub-cylindrical, marked with extremely fine encircling striæ, and having a diameter of about one fiftieth of an inch. The lateral tubes are produced from the sides of the main tube, usually alternately on opposite sides, and generally at intervals of from a third of a line to half a line. Their length varies from half a line to a line and a half, and their direction may be nearly parallel with the main tube, or at right angles to it, but generally forming angles of about 40° to 50.° The apertures of the lateral tubes are not elevated above the general surface, and usually have an elliptical form.

I do not yet feel satisfied that this singular fossil is an *Aulopora*, though the well-preserved specimens from the Hamilton group seems to prove it not to be an *Alecto*. A main

tube is certainly present, and the lateral tubes spring from it, and not from one another, as I was at first led to believe by my examination of casts from the Corniferous. The arrangement of the lateral tubes also is more variable than I had imagined. Sometimes they are entirely produced from one side of the tube (Fig. 57 *b*); but at other times they are biserial and alternate regularly with one another (Fig. 57 *c*). The fossil differs from the typical species of *Aulopora* in the great proportionate length of the lateral buds, and in their regular and more or less symmetrical method of growth, and more especially in the fact that the apertures of the tubes open in the plane of growth of the entire corallum, and are neither elevated above the general surface, nor perceptibly expanded.

The only species of *Aulopora* to which it has any affinity is *A. filiformis* (Billings), but this is a much more robust species, with larger tubes, and much more irregular method of growth, and apertures generally distinctly elevated above the general surface.

As occurring in the Corniferous Limestone, *Aulopora (?) Canadensis* is found chiefly growing on the epitheca of *Fistulipora Canadensis*, and *Diphyphyllum arundinaceum*. In the Hamilton Formation, it affects chiefly *Heliophyllum Halli* and *Cystiphyllum vesiculosum*, and in both groups it is commonly accompanied by *Spirorbis omphalodes*.

Locality and Formation.—Corniferous Limestone, Port Colborne, and Lot 6, Concession 1, Wainfleet. Hamilton Formation, Bartlett's Mills, near Arkona, Township of Bosanquet.

158. Syringopora intermedia (Nicholson).

Corallum lax, spreading, increasing by the production of lateral buds. Corallites cylindrical, often more or less crooked, having a diameter of from one line to a line and a half, or rarely two lines, the lateral buds being produced at angles of from 90° to 40,° and at intervals of from two to four lines. No connecting horizontal processes between the corallites, but sometimes abortive spines or nodes. Epitheca with fine encircling striæ, and irregular growth-swellings and geniculations. Internal structure, of infundibuliform tabulæ.

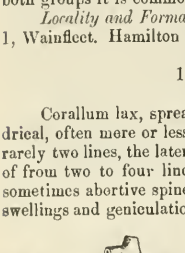


Fig. 58.

Fragments of *Syringopora intermedia* (Nich.) natural size. From the Hamilton group.

In its form and mode of growth, this form agrees altogether with *Syringopora nobilis* (Billings), of which I at first believed it to be simply the young. The latter, however, is a much larger form, its corallites having an average diameter of three lines, and sometimes as much as five lines, and its buds being produced at longer intervals. *S. intermedia*, on the other hand, occurs in the Hamilton formation (*S. nobilis* being a Corniferous species), and though it is very abundant, I have never seen any example with a diameter exceeding two lines, the majority of specimens having a diameter of little over one line. The corallites also are much more crooked and irregular, and the branches are produced at much shorter intervals. Some specimens do not exhibit the internal structure, and these present a resemblance to *Aulopora cornuta* (Billings), from which, however, they are readily distinguished by not being creeping or parasitic. Upon the whole, *S. intermedia* appears to me to be distinguished by characters of specific value.

Locality and Formation.—Common in the Hamilton Formation, Widder; and Bartlett's Mills, near Arkona, Township of Bosanquet.

159. Amboccelia umbonata (Conrad).

Orthis umbonata (Conrad), *Journ. Acad. Nat. Science, Philadelphia*, Vol. VIII., p. 264, Pl. XIV., Fig. 21.

Amboccelia umbonata (Hall), Thirteenth Report on the State Cabinet, p. 71.

Orthis nucleus (Hall), Geol. Rep. Fourth Dist., New York, p. 180.

Amboccelia umbonata (Hall), *Pal. N. Y.*, Vol IV., p. 269, Pl. XLIV., Figs. 7—18.

Since the portion of this Report treating of the *Brachiopoda* was written, I have come across two or three unmistakable examples of the ventral valve of this little shell, which if not identical with *Spirifera Urii* (Fleming), [= *P. unguiculus*, Phillips], is certainly very close to it. Our specimens are from the Corniferous Limestone, a formation in which they do not appear to have been detected by Hall, and I am chiefly concerned to notice their occurrence for the purpose of repeating that they are entirely distinct from *Productella Eriensis* (Nich.), to which

the ventral valve has a superficial resemblance. The ventral valve of *A. umbonata* is readily recognized by its very gibbous form, its extremely elevated and incurved beak, its possession of a distinct mesial sinus extending from the beak to the front margin, and the existence of a high and conspicuous area with a well marked fissure.

Locality and Formation.—Corniferous Limestone, Port Colborne.

160. Crania crenistriata (Hall).

Crania crenistriata (Hall), Thirteenth Report on the State Cabinet, p. 78.

Crania crenistriata (Hall), *Pal. N. Y.*, Vol. IV, p. 28, Pl. III, figs. 13—16.

On examining the surface of some of the *Heliophylla* of the Hamilton group, to which so many small organisms are attached, I find several specimens of *Crania crenistriata* (Hall). The dorsal valve of this species is all with which I am acquainted, and it is depressed-conical, nearly circular, with a central or sub-central apex. The apex is smooth, and the remainder of the shell is covered by sharp elevated crenulate radiating striæ, which increase interstitially, and of which there are about ten in the space of one line at the margin. The diameter of an individual of medium size is two lines and a half the height of the valve being little over half a line.

The ventral valve has never been detected, and Hall has only seen four specimens of the dorsal valve ; but the species does not appear to be very rare in the Hamilton shales at Arkona.

Locality and Formation.—Hamilton Formation, Bartletts' Mills, near Arkona, Township of Bosanquet.

LIST OF FOSSILS FROM THE CORNIFEROUS AND HAMILTON FORMATIONS OF WESTERN ONTARIO.

(The letters C. and H. indicate the occurrence of the fossil in the Corniferous Limestone or Hamilton Formation.)

I. Protozoa.

1. Astræospongia Hamiltonensis, *Meek and Worthen ?* (C).
2. Stromatopora tuberculata, *Nicholson* (C).
3. " perforata, *Nicholson* (C).
4. " granulata, *Nicholson* (C and H).
5. " mammillata, *Nicholson* (C).
6. " concentrica, *Goldfuss ?* (C).

II. Cœlenterata.

7. Blothrophyllum decorticatum, *Billings*, (C).
8. " approximatum, *Nicholson* (C).
9. Clisiophyllum Oneidaense, *Billings* (C).
10. " pluriradiale, *Nicholson* (C).
11. Zaphrentis gigantea, *Le Sueur* (C).
12. " fenestrata, *Nicholson* (C).
13. " prolifica, *Billings* (C).
14. " spatiosa, *Billings* (C).

15. Heliophyllum Canadense, *Billings* (C).
16. " Colbornense, *Nicholson* (C).
17. " Cayugaense, *Billings* (C).
18. " Halli, *Edw. and Haime* (C and H).
19. " sub-cæspitosum, *Nicholson* (H).
20. " proliferum, *Nicholson* (C).
21. " Eriense, *Billings* (C).
22. " colligatum, *Billings* (C).
23. " exiguum, *Billings* (C and H).
24. Petraia Logani, *Nicholson* (C).
25. Amplexus Yandelli, *Edw. and Haime* (C).
26. Diphyphyllum arundinaceum, *Billings* (C).
27. " stramineum, *Billings* (C).
28. " gracile, *McCoy* (C).
29. Eridophyllum Simcoense, *Billings* (C).
30. " Verneuilanum, *Billings* (C).
31. Cystiphyllum Senecaense, *Billings* (C).
32. " grande, *Billings* (C).
33. " Americanum, *Edw. and Haime* (C and H).
34. " vesiculosum, *Goldfuss* (C and H).
35. " sulcatum, *Billings* (C).
36. Microcyclus discus, *Meek and Worthen* (H).
37. Haimeophyllum ordinatum, *Billings* (C).
38. Syringopora nobilis, *Billings* (C).
39. " Hisingeri, *Billings* (C).
40. " perelegans, *Billings* (C).
41. " Maclurei, *Billings* (C).
42. " laxata, *Billings* (C).
43. Aulopora filiformis, *Billings* (C and H).
44. " cornuta, *Billings* (C and H).
45. " tubæformis, *Goldfuss* (C).
46. " umbellifera, *Billings* (C).
47. Favosites Gothlandica, *Lamarck*, (C and H).
48. " basaltica, *Goldfuss* ? (C).
49. " Forbesi, *Edw. and Haime* (C).
50. " hemispherica, *Yandell and Shumard* (C and H).
51. " turbinata, *Billings* (C and H).
52. " polymorpha, *Goldfuss* (C and H).
53. " reticulata, *De Blainville* (C and H).
54. " dubia, *De Blainville* (C).
55. " cervicornis, *De Blainville* (C).
56. " Chapmani, *Nicholson* (C).
57. Alveolites labiosa, *Billings* (C).
58. " Roemeri, *Billings* (C and H).
59. " cryptodens, *Billings* (C).
60. " conferta, *Nicholson* (C).
61. " (Cœnites ?) distans, *Nicholson* (C).
62. " ramulosa, *Nicholson* (C).
63. " Billingsi. *Nicholson* (C).
64. " Selwynii, *Nicholson* (C).
65. " Goldfussi, *Billings* (H).
66. " Fischeri, *Billings* (C and H).
67. " frondosa, *Nicholson* (H).
68. Striatopora Linneana, *Billings* (H).
69. Trachypora elegantula, *Billings* (H).
70. Chætetes moniliformis, *Nicholson* (H).
71. " Barrandi, *Nicholson* (H).
72. " quadrangularis, *Nicholson* (H).

73. Callopora incrassata, *Nicholson* (C and H).
74. Fistulipora Canadensis, *Billings* (C and H).
75. Michelinia convexa, *D'Orbigny* (C).

BRACHIOPODA.

76. Strophomena perplana, *Conrad* (C).
77. " demissa, *Conrad* (C).
78. " inequistriata, *Conrad* (C and H).
79. " Patersoni, *Hall* (C).
80. " ampla, *Hall* (C).
81. " nacrea, *Hall* (C).
82. " rhomboidalis, *Wahlenberg* (C).
83. Streptorhynchus Pandora, *Billings* (C).
84. Orthis Livia, *Billings* (C).
85. " Vanuxemi, *Hall* (H).
86. Chonetes lineata, *Vanuxem* (C and H).
87. " scitula, *Hall* (H).
88. " lepida, *Hall* (H).
89. " mucronata, *Hall* (C).
90. " hemispherica, *Hall* (C).
91. " arcuata, *Hall* (C).
92. " acutiradiata, *Hall* (C).
93. Productella Eriensis, *Nicholson* (C).
94. Atrypa reticularis, *Linnæus* (C and H).
95. " spinosa, *Hall* (C).
96. Spirifera mucronata, *Conrad* (C and H).
97. " varicosa, *Hall* (C).
98. " duodenaria, *Hall* (C).
99. " raricosta, *Conrad* (C).
100. " fimbriata, *Conrad* (C).
101. Cyrtina Hamiltonensis, *Hall* (H).
102. Spirigera spiriferoides, *Eaton* (C and H).
103. " rostrata, *Hall* (H).
104. " scitula, *Hall* (C).
105. Attyris nasuta, *Conrad* (C).
106. " (?) Maia, *Billings* (C).
107. Retzia (?) Eugenia, *Billings* (C).
108. Leiorhynchus multicosta, *Hall* (H).
109. " Huronensis, *Nicholson* (H).
110. Amphigenia elongata, *Vanuxem* (C).
111. Lingula squamiformis, *Phillips ?* (C).
112. " Maida, *Hall ?* (C).
113. Pholidops ovatus, *Hall* (C).
114. Cœlospira concava, *Hall* (C).
115. Centronella glans-fagea, *Hall* (C).
116. " Hecate, *Billings* (C).

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117. Botryllopora socialis, *Nicholson* (H).
118. Ceriopora (?) Hamiltonensis, *Nicholson* (H).
119. Ptilodictya Meeki, *Nicholson* (C and H).
120. Polypora pulchella, *Nicholson* (C).
121. " Halliana, *Prout* (C).
122. " tenella, *Nicholson* (C).
123. " tuberculata, *Nicholson* (H).
124. Retepora prisca, *Goldfuss* (C and H).

125. " Phillipsi, *Nicholson* (C).
126. Cryptopora mirabilis, *Nicholson* (C).
127. Fenestella magnifica, *Nicholson* (C).
128. " marginalis, *Nicholson* (C).
129. " cribrosa, *Hall* (H).
130. " tenuiceps, *Hall* (C and H).
131. " filiformis, *Nicholson* (C).
132. Tæniopora exigua, *Nicholson* (H).
133. " pennıformis, *Nicholson* (H).
134. Carinopora Hindei, *Nicholson* (C).
135. Clathropora intertexta, *Nicholson* (C).

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136. Conocardium trigonale, *Hall* (C).

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137. Tentaculites sp. (H).

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138. Platyceras ventricosum, *Conrad* (C).
139. " intermedium, *Hall* (C).
140. " sp. (C).
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147. " ? obliquus, *Nicholson* (C).
148. Holopea Eriensis, *Nicholson* (C).
149. Helicotoma ? serotina, *Nicholson* (C).

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150. Spirorbis omphalodes, *Goldfuss* (C and H).
151. " Arkonensis, *Nicholson* (H).
152. Ortonia intermedia, *Nicholson* (H).

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153. Proetus crassimarginatus, *Hall* (C).
154. Dalmanites Boothii, *Green* (H).
155. Phacops rana, *Green* (H).
156. Cythere ? punctulifera, *Hall* (H).

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157. Aulopora ? Canadensis, *Nicholson* (C and H).
158. Syringopora intermedia, *Nicholson* (H).
159. Amboccelia umbonata, *Hall* (C).
160. Crania crenistriata, *Hall* (H).

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PLATE I.

Fig. 1. STROMATOPORA OSTIOLATA, Nich. A fragment of the natural size, from the Guelph Formation. Introduced for comparison.

1*a*. Portion of the same, enlarged, showing the oscula on the surface.

Fig. 2. STROMATOPORA TUBERCULATA, Nich. A fragment of the natural size. (p. 14.)

2*a*. Section of a portion of the same, enlarged.

Fig. 3. STROMATOPORA GRANULATA, Nich. A fragment of the natural size. (p. 16.)

3*a*. Section of a portion of the same, enlarged.

Fig. 4. STROMATOPORA MAMMILLATA, Nich. A fragment of the natural size. (p. 17.)

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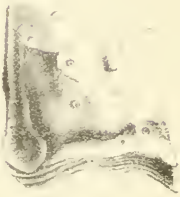

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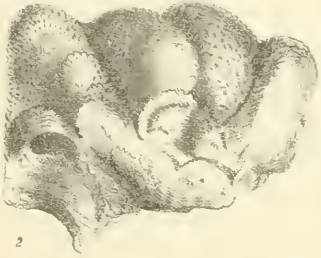

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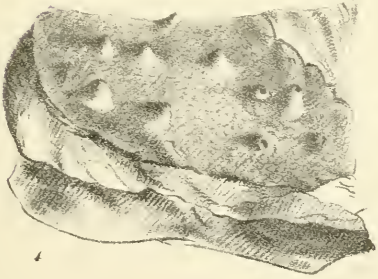

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2a

3a

W. C. Hutchinson del. ad nat.

Photo-Lith. Copp, Clark Co.

PLATE II.

Fig. 1. PLATYCERAS VENTRICOSUM, Conrad. Viewed from above. Nat. size. (p. 115.)
1*a*. Portion of the surface, enlarged.

Fig. 2. PLATYCERAS INTERMEDIUM, Hall (?). Nat. size. (p. 115.)

Fig. 3. STROPHOSTYLUS (?) SUB-GLOBOSUS, Nich. Nat. size. (p. 118.)
3*a*. Portion of the surface of the same, enlarged.

Fig. 4. PLATYOSTOMA VENTRICOSA, Conrad. Nat. size. (p. 117.)

Fig. 5. PLATYCERAS UNISERIALE, Nich. Nat. size. (p. 116.)

Fig. 6. PLATYCERAS sp. Nat. size. (p. 116.)

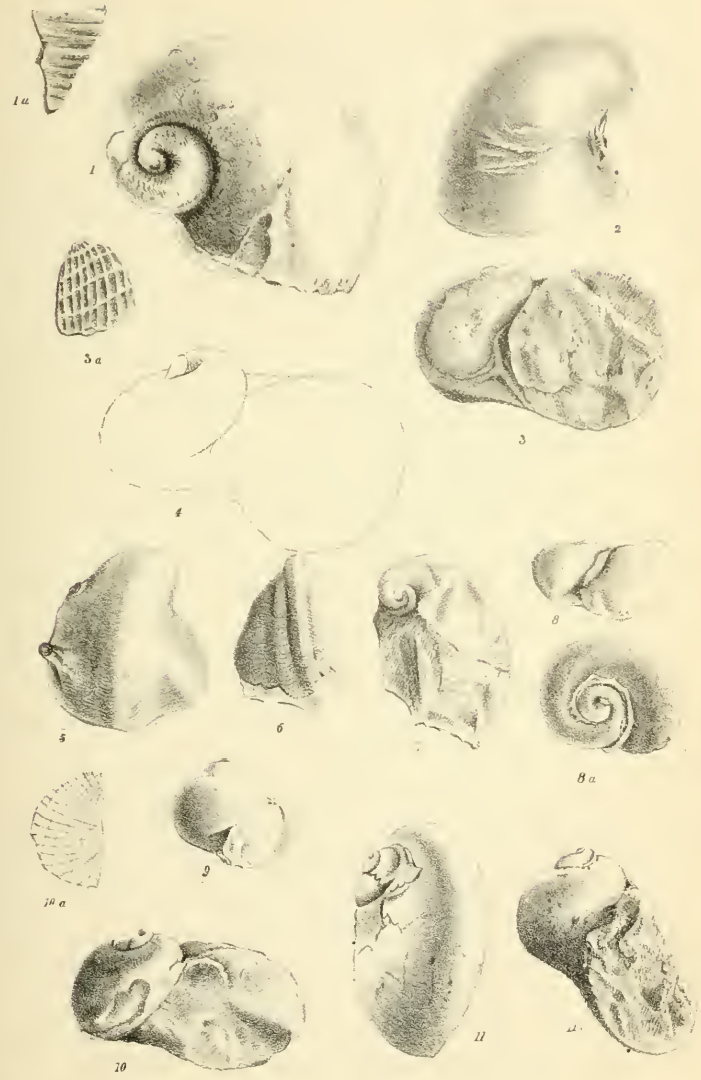
Fig. 7. PLATYCERAS sp. Nat. size. (p. 116.)

Fig. 8. HELICOTOMA (?) SEROTINA, Nich. Nat. size. (p. 120.)
8*a*. The same viewed from above.

Fig. 9. HELOPEA ERIENSIS, Nich. Nat. size. (p. 120.)

Fig. 10. STROPHOSTYLUS (?) OVATUS, Nich. Nat. size. (p. 118.)
10*a*. Portion of the surface of the same, enlarged.

Fig. 11. STROPHOSTYLUS (?) OBLIQUUS, Nich. Dorsal aspect, nat. size, (p. 119.)
11*a*. Front view of the same, nat. size.



M C Hutchison del. ad nat. Roberts & Champt.

PLATE III.

Fig. 1. ZAPHRENTIS GIGANTEA, Lesueur. A specimen naturally split longitudinally Nat. size. (p. 22.)

Fig. 1*a*. Another example of the same, of the natural size. Both of these figures represent immature individuals.

Fig. 2. ZAPHRENTIS PROLIFICA, Billings. Nat. size. (p. 23.)

2*a*. Portion of the edge of the calice of the same, enlarged.

Fig. 3. PETRAIA (?) LOGANI, Nich., viewed from behind. Nat. size. (p. 30.)

3*a*. The same, viewed from the front.

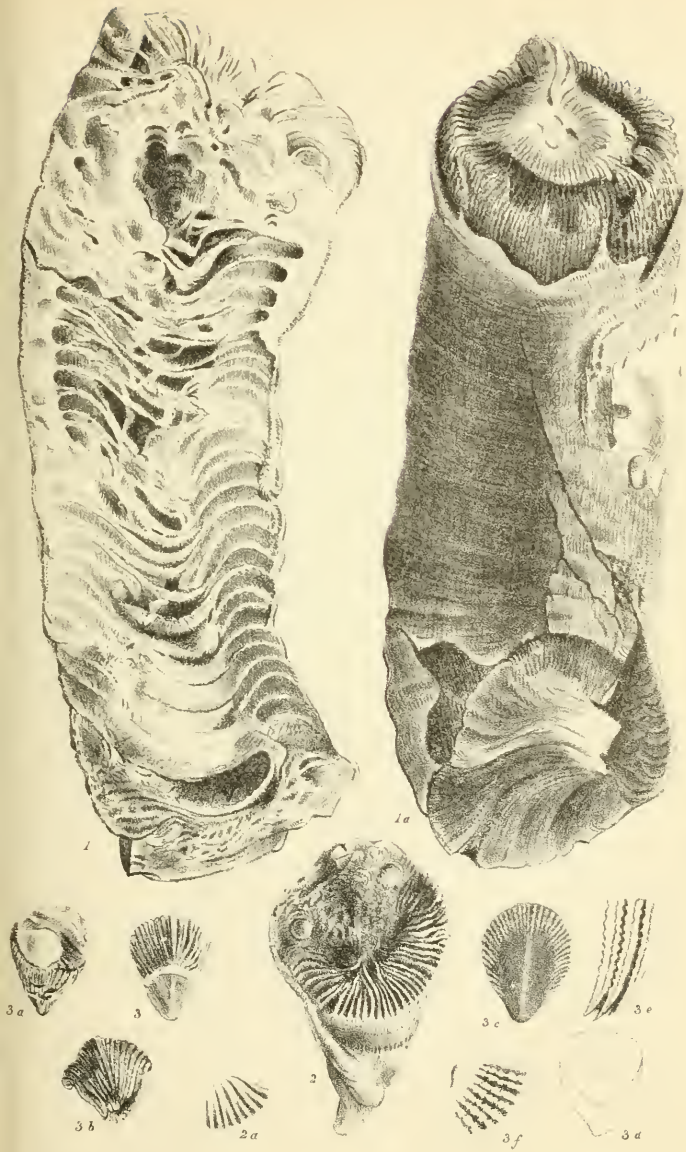
3*b*. Another example, from which the epitheca has been removed, viewed from below.

3*c*. Dorsal aspect of another specimen, which has not been exposed to weathering.

3*d*. Outline of another example of the same, showing the sub-triangular form of the calice.

3*e*. A few of the septa viewed from the exterior, the epitheca being wanting. Enlarged.

3*f*. Transverse section of a fragment, enlarged.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1a
3a
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2
3c
3e
3b
2a
3f
3d

PLATE IV.

Fig. 1. ZAPHRENTIS FENESTRATA, Nich. Nat. size. (p. 22.)

Fig. 2. BLOTHROPHYLLUM APPROXIMATUM, Nich. Nat size. (p. 19.) The epitheca ha been decorticated.

Fig. 3. BLOTHROPHYLLUM DECORTICATUM, Billings. A fragment from which the epithec has been removed. Nat. size. (p. 19.)

Fig. 4. CLISIOPHYLLUM ONEIDAENSE, Billings. A small example from which th epitheca has been removed. Nat. size. (p. 20.)

Fig. 5. Another specimen of the same, in which the epitheca is also wanting.

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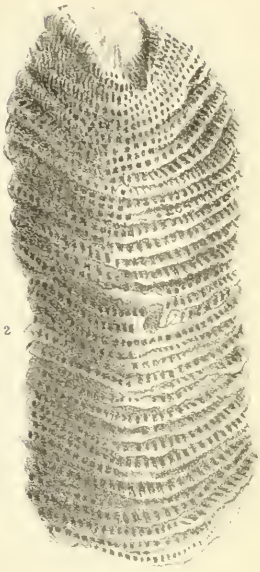
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PLATE V.

Fig. 1. HELIOPHYLLUM CANADENSE, Billings. Nat. size. (p. 25.)

Fig. 2. HELIOPHYLLUM CAYUGAENSE, Billings. The calice viewed from above. Nat. size. (p. 26.)

Fig. 3. HELIOPHYLLUM COLLIGATUM, Billings. Upper surface of a fragment. Nat. size. (p. 28.)

3*a*. Side-view of the same, showing the periodic expansions of the corallites. Nat. size.

Fig. 4. HELIOPHYLLUM COLBORNENSE, Nich. Nat. size (p. 25.)

Fig. 5. DIPHYPHYLLUM GRACILE, McCoy. Nat. size. (p. 33.)

Fig. 6. DIPHYPHYLLUM STRAMINEUM, Billings. Nat size. (p. 33.)

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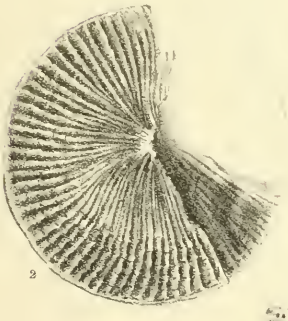
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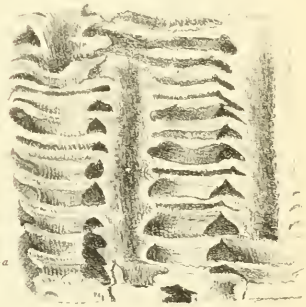
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PLATE VI.

Fig. 1. Diphyphyllum arundinaceum, Billings. Nat. size. (p. 32.)

Fig. 2. Syringopora laxata, Billings. Nat. size. (p. 41.)

Fig. 3. Aulopora tubæformis, Goldfuss. Nat. size. (p. 43.)

Fig. 4. Aulopora umbellifera, Billings. An unusually large example. Nat. size. (p. 43.)

Fig. 5. Eridophyllum Simcoense, Billings. Nat. size. (p. 34.)

Fig. 6. Cystiphyllum Senecaense, Billings. A decorticated and weathered specimen, showing the peculiar composition of the coral out of successive invaginated conical layers. Nat. size. (p. 35.)

Fig. 7. Cystiphyllum sulcatum, Billings. Nat. size. (p. 38.)

Fig. 8. Cystiphyllum Americanum, Edw. & H. A small specimen from the Corniferous Limestone. Nat. size. (p. 36.)

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PLATE VII.

Fig. 1. Alveolites Billingsi, Nich. Nat, size. (p. 55.)

Fig. 2. Favosites reticulata, De Blain. Nat. size. (p. 51.)

Fig. 3. Alveolites ramulosa, Nich. Nat size. (p. 55.)

Fig. 4. Alveolites Selwynii, Nich. Nat size. (p. 56.)

Fig. 5. Favosites dubia, De Blain. Nat. size. (p. 51.)

Fig. 6. Favosites Chapmani, Nich. Nat. size. (p. 52.) This figure does not satisfactorily exhibit the extreme obliquity of the corallites, and the resulting obliquity of the calices.

Fig. 7. Favosites polymorpha, Gold. A small fragment. Nat. size. (p. 50.)

Fig. 8. Favosites Forbesi, Edw. & H. Nat. size. (p. 48.)

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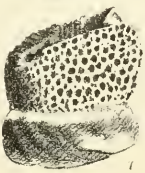

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PLATE VIII.

Fig. 1. Favosites turbinata, Billings. A cylindrical variety. Nat. size. (p. 49.)

Fig. 2. Favosites turbinata, Billings. A turbinate variety. Nat. size.

Fig. 3. Favosites hemispherica, Yandell & Shumard. Nat. Size. (p. 49.)

Fig. 4. Favosites Forbesi, Edw. & H. A fragment, in which many of the calices are closed by an epitheca. Nat. size.

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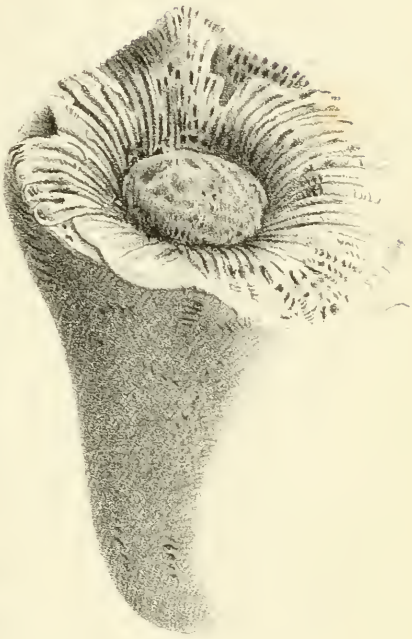

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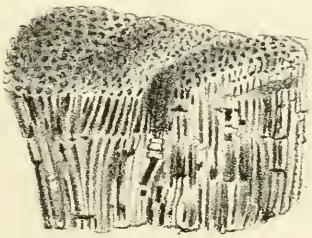

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C. Hut. lith. et ad nat. Printed by Lamp

REPORT

RELATIVE TO THE GENERAL WORKING OF THE

Tavern and Shop Licenses Acts,

BY THE

HONOURABLE THE PROVINCIAL TREASURER.

Presented to the Legislative Assembly by command of His Excellency the Lieutenant-Governor.

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 8th January, 1874.

To His Excellency the Honourable JOHN CRAWFORD, *Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR EXCELLENCY,—I have the honour to submit to your Excellency the following Report relative to the general working of the Tavern and Shop Licenses Acts.

In accordance with section 8 of 36 Vic. cap. 34, a provincial officer, William Smith, has been appointed to enforce the observance of the provisions of the Licenses Acts, who in the discharge of his duties has, during the year, visited the cities, towns, villages, and many of the townships throughout the Province, and personally inspected many licensed and unlicensed premises, and has in some cases prosecuted those who have wilfully disregarded the requirements of the law, and admonished and instructed others who were ignorant of its provisions.

Much good has been accomplished from his personal examination into these matters.

Four other persons were temporarily appointed, who were instructed to visit each city, town and incorporated village on the line of the Grand Trunk Railway, the Buffalo and Goderich division thereof, and the Great Western Railway, and ascertain the number of licensed premises in such places, and also to ascertain the number of persons who were engaged in selling liquor without being licensed.

With regard to licensed premises they were to report in each case whether or not all of the requirements of the law had been and are being complied with.

As to unlicensed premises a special report was to be made of each case.

A digest of their several reports has been prepared, and is herewith submitted, as also their remarks upon matters coming within their observation during their inspection.

Herewith is also submitted a statement showing the number of licenses issued during the year, and the revenue derived therefrom.

And also a special report with regard to the general working of the law in the City of Toronto.

Respectfully submitted,

ADAM CROOKS,
Treasurer

Toronto, 7th January, 1874.

A Digest of Reports *by Inspectors Smith, Martin, Peters, Hardy and Watson, appointed by the Honourable the Treasurer to visit every City, Town and Incorporated Village on the line of the Grand Trunk Railway, the Buffalo and Goderich Division thereof, and the Great Western Railway, and report upon the operation of the License Law, arranged in alphabetical order.*

Brockville.—A by-law has been passed limiting the number of Licenses to be issued as follows:—

Taverns	22
Shops	7
Saloons	4

All have been issued except one shop license. There are two persons, each keeping a Tavern, who openly and conspicuously sell without License. Three Inspectors have been appointed, who are not efficient in the discharge of their duties, and who do not enforce the requirements of the law.

Berlin.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses. An Inspector has been appointed who is efficient in the discharge of his duties. One party, keeping a saloon, sells without License and has been twice fined.

The inhabitants are highly satisfied with the law for the better observance of the Sabbath. Those immediately interested wish the law altered to allow them to sell until nine o'clock on Saturday nights, but respectable shop-keepers and citizens wish for no such change.

LICENSES ISSUED.

Taverns	11
Shops	6

Brampton.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses. An Inspector has been appointed who is zealous in the discharge of his duties. No unlicensed premises could be found.

Tavern and shop-keepers alike complain of the too early closing, and prevention of sales on Saturday nights. Nine o'clock is suggested as being the hour which would enable the tavern keepers to get rid of their country customers, and the shop keepers to deliver their orders.

It is said that the shop-keepers allow drinking on their premises.

LICENSES ISSUED.

Taverns	9
Shops	6

Brantford.—No by-law limiting the number of Licenses to be issued has been passed.

An Inspector has been appointed.

The law appears to be very well respected, only two unlicensed premises could be found.

Too many Taverns are licensed for the requirements of the community, some of these not having the required accommodation while others coming within the statute have accommodations of the most ordinary kind.

LICENSES ISSUED.

Taverns	46
Shops	21
Saloons	2

BRIGHTON.—A by-law has beeen passed limiting the number of Licenses to be issued as follows:

Taverns	5
Shops	2

The Issuer has exceeded the limitation by one Tavern License.

An Inspector has been appointed.

The local authorities exercise but little zeal and attention in having the requirements of the law carried out. There was one party selling without license who since the Inspector's visit has applied for, and received one.

LICENSES ISSUED.

Taverns	6
Shops	1

BOWMANVILLE.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	7
Shops not limited.	

No certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

In no case has the applicant for a License applied by petition.

The local authorities exercise but little zeal and energy in endeavouring to have the requirements of the law executed. It would give very general satisfaction if properly enforced by the municipal officers.

LICENSES ISSUED.

Taverns	6
Shops	3

BELLEVILLE.—No by-law has been passed limiting the number of Licenses to be issued and no certificate in accordance therewith has been delivered by the Clerk of the Municipalities to the Issuer of Licenses.

An Inspector has been appointed who endeavours to perform his duty.

Officials are charged with ignorance of the law and apathy in their endeavours to have the requirements of the law executed.

There are a number of parties openly and conspicuously selling without License.

Some are selling under their License without having paid the municipal duties.

LICENSES ISSUED.

Taverns	16
Shops	10
Saloons	4

CORNWALL.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	16
Shops	12

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is efficient in the discharge of his duties, and with the assistance of the temperance people is able to compel obedience to all of the requirements of the law.

LICENSES ISSUED.

Taverns	11
Shops	4

CLINTON.—No by-law has been passed limiting the number of Licenses to be issued and no certificate relating thereto has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

The requirements of the law so far as they are known are generally observed.

Ignorance of the law is prevalent.

LICENSES ISSUED.

Taverns	9
Shops	6

CHATHAM.—No by-law has been passed limiting the number of Licenses to be issued.

A certificate by the Clerk of the Municipality has been delivered to the Issuer of Licenses stating that no limit exists as to taverns. Shops are not mentioned and saloons are limited to four.

An Inspector has been appointed who endeavours to discharge his duty.

The town council is censured by many people for granting so many certificates for Tavern Licenses. Thirty-one Tavern Licenses have been issued for this place containing 7,000 inhabitants, ten of these are quite respectable places but the majority of the others are a discredit to the community, having only pretended beds to meet the requirements of the law, which are not in many places intended to be used by any one.

LICENSES ISSUED.

Taverns	31
Shops	12
Saloons,	4

CALEDONIA.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	13
Shops	5

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

The law appears to be very generally respected.

There are too many taverns for the requirements of the community.

LICENSES ISSUED.

Tavern	12
Shops	4

COLBORNE.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is a pedler and absent from his home the greater part of his time.

Little or no attention is paid to the requirements of the law, except when a visit from the County Inspector is anticipated.

LICENSES ISSUED.

Taverns	5
Shops	3

COBOURG.—A by-law has been passed, limiting the number of licenses to be issued as follows :

Taverns	18
Saloons	4
Shops	unlimited

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is faithful in the discharge of his duties and insists upon the requirements of the law being observed. No liquor is sold in any unlicensed premises.

LICENSES ISSUED.

Taverns	17
Shops	6
Saloons	3

CAYUGA.—No by-law has been passed limiting the number of Licenses to be issued.

An Inspector has been appointed who is not efficient in the discharge of his duties ; little attention is paid to the requirements of the law, and liquor is sold at all times.

The accommodation in nearly all of the Taverns is very poor, one half in number would be quite sufficient for the requirements of this place.

LICENSES ISSUED.

Taverns	15
Shops	2

DUNNVILLE.—No by-law has been passed limiting the number of Licenses to be issued.

The law is very badly executed here. An Inspector has been appointed who does his duty only in so far as he is called upon to report favourably of every applicant for a License, and to grant a certificate thereto; whether such applicant has the proper qualifications or not. So long as four beds could be shewn it has been held sufficient.

One half of the number of Taverns would be quite sufficient to meet all the requirements of this community.

LICENSES ISSUED.

Taverns	15
Shops	6
Saloons	1

FORT ERIE.—No by-law has been passed limiting the number of Licenses to be issued.

Fifteen Tavern Licenses have been issued for this place, altogether too many for the requirements of the community. Many of them have very poor accommodation just enough to come within the requirements of the statute.

An Inspector has been appointed who has not been zealous in the discharge of his duties. The law is not well respected.

One person has been selling without license for years.

LICENSES ISSUED.

Taverns	12
Shops	0

FOREST.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses. An Inspector has been appointed who is not at all energetic in the discharge of his duties. Some of the municipal authorities have transferred licenses without the intervention of the Issuer of Licenses.

LICENSES SOLD.

Taverns	5
Shops	3

GODERICH.—A by-law has been passed limiting the number of Licenses to be issued as follows

Taverns	10
Shops	10

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is zealous and attentive in the discharge of his duties, and sees that the requirements of the law are properly complied with.

LICENSES ISSUED.

Taverns	10
Shops	10

GUELPH.—A by-law has been passed, limiting the number of Licenses to be issued as follows :

Taverns	24
Shops	Unlimited.

A certificate in accordance therewith, has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who gives a reasonable amount of attention to the discharge of his duties, and is fairly successful in having the requirements of the law carried out.

Tavern keepers complain of the early closing on Saturday nights.

There does not appear to be any one selling without a License.

LICENSES ISSUED.

Taverns	21
Shops	19
Saloons	2

GEORGETOWN.—A by-law has been passed limiting the number of Licenses to be issued as follows :

Taverns	5
Shops	Unlimited.

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

The requirements of the law are complied with in this municipality.

An Inspector has been appointed who does his duty.

The early closing on Saturday nights is complained of by the tavern keepers.

There are no unlicensed premises in which liquor is sold or drunk.

LICENSES ISSUED.

Taverns	5
Shops	2

GANANOQUE.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who pays but little attention to the discharge of his duties.

The law is generally satisfactory.

There are some licensed taverns which have not the required accommodation.

LICENSES ISSUED.

Taverns	9
Shops	4

HAMILTON.—A by-law, regulating the general working of the Tavern and Shop Licenses Acts, has been passed. The number of taverns and shops are not limited. Saloons are limited to four.

No certificate, in accordance with the terms of the by-law, has been delivered by the Board of Police Commissioners to the Issuer of Licenses.

An Inspector has been appointed, who is partially successful in the discharge of his duties.

Many shops have all the appliances or necessaries, and openly and conspicuouslysell by the glass and small measure.

The houses with the number and the street to which the license is intended to apply have not been particularly mentioned therein. A License could be used for any premises, and an Inspector could not tell whether or not it was being used in the premises to which it was first issued. The attention of the Issuer has been called to this, and it will be remedied in future.

Many parties professing to have Licenses could not produce them when called upon.

There are some licensed taverns having a shop in the same building.

LICENSES ISSUED.

Taverns	109
Shops	103
Saloons	10

INGERSOLL.—A by-law has been passed, limiting the number of Licenses to be issued as follows:—

Taverns	24
Shops	24
Saloon	1

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who is efficient in the discharge of his duties, and endeavours to make the law respected.

Very general satisfaction is expressed here with the working of the law. Hotels are quiet and respectable. There is but one saloon, and licensed shop-keepers do not permit drinking upon their premises.

LICENSES ISSUED.

Taverns	14
Shops	8
Saloon	1

IROQUOIS.—A by-law has been passed, limiting the number of Licenses to be issued as follows:—

Taverns	3
Shops	3

An Inspector has been appointed under the old Act, but none under the new. The law is generally respected, and gives satisfaction.

LICENSES ISSUED.

Taverns	3
Shops	3

KEMPTVILLE.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, but neither he nor any of the other municipal officers make the least exertion to have the requirements of the law enforced.

There are taverns with Licenses, without having the required accommodation, and there are licensed shops in which liquor is sold by the glass.

LICENSES ISSUED.

Taverns	4
Shops	4

KINGSTON.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	100
Shops	50
Saloons	10

A certificate in accordance therewith has been delivered by the Board of Police Commissioners to the Issuer of Licenses.

An Inspector has been appointed who has endeavoured to make the law respected but is almost powerless to control many of the places to which Licenses have issued, owing to the objectionable character of the premises, and of those who control them.

Many of the licensed taverns are but low grog-holes.

There are some parties who sell without License. Informations have been laid against them, but the cases have been invariably dismissed, the defendants having sworn that they did not sell liquor.

Too many taverns for the requirements of this community have been licensed.

Of the eighty-seven issued, 26 have not the accommodation required by law.

Many premises have been assigned, and the assignee continues to sell without a transfer of the License.

Some of the licensed shop-keepers sell by the glass.

LICENSES ISSUED.

Taverns	87
Shops	24
Saloons	10

LONDON.—No by-law has been issued limiting the number of Licenses to be issue and no certificate in accordance therewith has been delivered by the Board of Police Commissioners, to the Issuer of Licenses.

An Inspector has been appointed, who has not succeeded in enforcing a proper respect for the requirements of the law.

The law is very inefficiently carried out, large numbers of parties hold tavern licenses for premises which do not contain the required accommodation, and in some

licensed shops, a bar and counter with all appliances or necessaries for selling by the glass are in full view. In one case the proprietor of a shop within sixty-six feet of the Inspector's office has been selling without License since March last.

The saloons are a nuisance and could well be dispensed with.

Many of the Shops and a great many of the Taverns are but low groceries.

LICENSES ISSUED.

Taverns	92
Shops	38
Saloons	8

LUCAN.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith, has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspecter has been appointed who is not zealous in the discharge of his duties little attention is paid to the requirements of the law.

LICENSES ISSUED.

Taverns	7
Shops	5

MORRISBURG.— No By-law has been passed limiting the number of Licenses to be issued and no Certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed under the old Act, but none under the new one.

The law is generally respected here.

LICENSES ISSUED.

Taverns	5
Shops	6

MITCHELL.—No by-law limiting the number of Licenses to be issued has been passed.

An inspector has been appointed who enforces obedience to the requirements of the law.

LICENSES ISSUED.

Taverns	8
Shops	6

NEWCASTLE.—A by-law has been passed limiting the number of Licenses to be issued as follows:—

Taverns	5
Shops	2

No certificate in accordance therewith has been delivered by the Clerk of the of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

The law is respected here. Its provisions are well executed, and it gives very general satisfaction.

LICENSES ISSUED.

Taverns	5
Shops	2

NEW-HAMBURG.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

The law is generally well respected, there is an exception in the case of a permission having been granted by the municipal authorities to sell without License, to an infirm old man who has a large family. This means, to enable him to support his family, having been adopted by the municipal authorities, to prevent them becoming a direct charge upon the Municipality.

LICENSES ISSUED.

Taverns	8
Shops	2

NAPANEE.—A by-law has been passed limiting the number of Licenses to be issued as follows:—

Taverns	12
Shops	4

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is energetic in the discharge of his duties.

All parties are well pleased with the general working of the law.

LICENSES ISSUED.

Taverns	8
Shops	3

OSHAWA.—A by-law has been passed limiting the number of Licenses to be issued as follows:—

Taverns	6
Shops	3

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who does not understand his duties, and in consequence thereof, the requirements of the law are not enforced.

The law cannot be said to work well here, owing to the laxity of its administration.

LICENSES ISSUED.

Taverns	6
Shops	2

OTTAWA.—A by-law has been passed limiting the number of Licenses to be issued as as follows:—

Taverns	100
Shops	100
Saloons	10

A certificate in accordance therewith has been delivered by the Board of Police Commissioners to the Issuer of Licenses.

The Issuer has exceeded the limitation by twenty-five Tavern Licenses.

An Inspector has been appointed who has endeavoured to discharge his duties, but has not been very successful.

There are three times the number of taverns licensed that are required for the accommodation of the public.

Quite a number of shop-keepers have been selling liquor without Licenses since the beginning of the license year, and some have been selling under their License without having paid the municipal duty, but who immediately paid it after their premises had been inspected by the Inspector appointed by the Government.

LICENSES ISSUED.

Taverns	125
Shops	87

PARIS.—A by-law has been passed, limiting the number of Licenses to be issued as follows:

Taverns	18
Shops	10
Saloons	1

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed.

The law does not appear to be well respected here.

Tavern-keepers complain much of people getting drunk at the shops, particularly on Saturdays, and then going to the taverns where there was a difficulty in getting them out at seven o'clock.

Some parties sell without License.

LICENSES ISSUED.

Taverns	13
Shops	7
Saloons	1

PORT HOPE.—A by-law has been passed, limiting the number of Licenses to be issued as follows:—

Taverns	20
Shops	Unlimited.

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who appears to be zealous in the discharge of his duties. The law is very generally respected.

Licenses have been granted by the Issuer upon the certificate of the Inspector.

There are too many licensed taverns for the requirements of the community.

LICENSES ISSUED.

Taverns	14
Shops	9
Saloons	1

POINT EDWARD.—No by-law has been passed limiting the number of Licenses to be issued.

No certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who discharges his duties. The law is well respected.

LICENSES ISSUED.

Taverns	5
Shops	2

PORT COLBORNE.—No by-law has been passed, limiting the number of Licenses to be issued and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who is efficient in the discharge of his duties.

The law is generally respected here.

There appears to be no one selling without a License.

LICENSES ISSUED.

Taverns	21
Shops	3

PARK HILL.—No by-law has been passed, limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, but the law does not appear to have been enforced. In one instance a party keeping a tavern holds a permit from the municipal authorities, to sell liquors until he is able to take out a License. In another, a tavern-keeper was selling under his License without having paid the municipal duty.

LICENSES ISSUED.

Taverns	5
Shops	5

PETROLIA.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

No saloons are permitted.

An inspector has been appointed who is efficient in the discharge of his duties.

There are some defects in the execution of the law, but on the whole it is fairly carried out. There are two parties selling without License:

LICENSES ISSUED.

Taverns	12
Shops	5

PRESCOTT.—No by-law limiting the number of Licenses to be issued has been passed, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

No Inspector has been appointed under the Act of 1873. Two parties were appointed to examine the taverns and shops before Licenses were granted; after that their duties ended.

Little attention is paid towards enforcing the law. The requirements are not respected.

LICENSES ISSUED.

Taverns	14
Shops	5
Saloons	4

T. THOMAS.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed, who is not efficient in the discharge of his duties.

There are some licensed taverns which have not the required accommodation.

The law, if properly respected, would give very general satisfaction.

LICENSES ISSUED.

Taverns	22
Shops	8
Saloons	4

SARNIA.—No by-law has been passed limiting the number of licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is not efficient in the discharge of his duties, and many complaints are made against him.

Saloons are of no use, tippling and gambling only resulting ther efrm.

Many shop licenses are purposely taken out to sell by the glass.

Drinking in shops is done to an alarming extent.

LICENSES ISSUED.

Taverns	9
Shops	11
Saloons	4

SEAFORTH.—No by-law has been passed limiting the number of Licenses to be issued. The Clerk of the Municipality has delivered to the Issuer of Licenses a certificate in accordance therewith.

An Inspector has been appointed who exercises but little zeal in the discharge of his duties.

Some taverns with Licenses have not the required accommodation; others are selling without a License.

LICENSES ISSUED.

Taverns	11
Shops	7

ST. MARY'S.—No by-law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

Two Inspectors have been appointed who are not efficient in the discharge of their duties.

There appears to have been a laxity in the manner in which Licenses have been issued.

LICENSES ISSUED.

Taverns	12
Shops	8

STRATFORD.—No by law has been passed limiting the number of Licenses to be issued, and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is efficient in the discharge of his duties.

The law is well respected here, but there are many who are ignorant of its requirements.

Tavern-keepers complain of the early closing hour on Saturday nights, and they think that the licensed shop-keepers should be obliged to conform with the same rule.

LICENSES ISSUED.

Taverns	30
Shops	7
Saloons	2

TRENTON.—No by-law has been passed limiting the number of Licenses to be issued and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed but neither he nor any other municipal officer pays the slightest attention towards enforcing respect for the law.

Many unlicensed premises exist in which liquor is openly and conspicuously sold

The law generally is very badly executed in this place.

LICENSES ISSUED.

Taverns	10
Shops	4

WHITBY.—No by-law has been passed limiting the number of Licenses to be issued and no certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who endeavours to discharge his duty.

The law is generally well respected in this place.

There is one person selling without a License. It is difficult to get any one to inform or give evidence against him.

LICENSES ISSUED.

Taverns	8
Shops	6

WOODSTOCK.—A by-law has been passed limiting the number of Licenses to be issued a follows:

Taverns	15
Shops	12
Saloons	2

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

Two Inspectors have been appointed who exercise but little diligence in the discharge of their duties.

The law could be made very effective here, were the authorities more energetic in enforcing obedience to its requirements.

The general desire of all persons holding Licenses is to observe the law.

There are some licensed taverns which have not the required accommodation.

One licensed shop is but a low groggery: twenty filled decanters with glasses, are in full view.

LICENSES ISSUED.

Taverns	15
Shops	8
Saloons	2

WINDSOR.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	18
Saloons	4
Shops	Unlimited.

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is efficient in the discharge of his duties.

The law is generally respected.

The early closing of Taverns on Saturday nights and Sunday works beneficially.

LICENSES ISSUED.

Taverns	18
Shops	12
Saloons	4

WELLAND.—A by-law has been passed limiting the number of Licenses to be issued as follows:

Taverns	8
Shops	7

A certificate in accordance therewith has been delivered by the Clerk of the Municipality to the Issuer of Licenses.

An Inspector has been appointed who is zealous and energetic in the discharge of his duties and has succeeded in enforcing a due observance of all of the requirements of the law.

The law works very satisfactorily in this place.

LICENSES ISSUED.

Taverns	7
Shops	7

Respectfully submitted,

ADAM CROOKS.

Henry Totten, Clerk, *Treasurer.*
Treasury Department.

TORONTO, 30th December, 1873.

SIR,—I beg to make the following Report with regard to the Tavern and Shop Licenses Acts.

During the year I have visited many places throughout the Province, and have found that the present law has done a great deal of good, and has given very general satisfaction.

When the requirements of the law are more fully known, and competent men are appointed as Inspectors, its success will be very much greater.

In many places an Inspector under the Act of 1873 has not been appointed. Officers of many Municipalities were not aware that they were required by this Act to make such an appointment.

Many parties have been prosecuted successfully for breaches and non-observance of the law.

I have had a personal interview with many of the leading municipal officers throughout the Province, and have called their attention to many violations of the law that were daily occurring within their jurisdiction; and have succeeded in arousing many from their apathy, who have expressed their intention of exercising a more vigilant supervision over these matters in future.

In every place that I have visited I have found a larger number of licensed taverns than are required for the accommodation or necessities of the community. The proprietors of many of them have no other object than selling liquor. They are saloons in everything except in name. I would suggest that the accommodation required for a tavern should not be less than ten bedrooms, with all other necessary accommodations.

Complaints are numerous against retail licensed shop-keepers, who sell by the glass. I have personally visited large numbers of these places throughout the Province, and have found in very many cases beer pumps, decanters and glasses, and all of the appliances necessary for drinking in full view; and the proprietor constantly in the most open and conspicuous manner selling by the glass, and this in some cases almost under the nose of the Inspector. I am convinced that more drunkenness emanates from the licensed shops than from any other source.

Many shop-keepers sell by the glass, claiming the right to do so under the authority of a Tavern License, which they have obtained for an adjoining premises communicating with the shop.

Nearly all of the breaches or evasions of the law which have come under my personal notice, could have been successfully prosecuted had the Municipal Inspector performed his duty: the present law provided a remedy in almost every case.

I would therefore suggest that the Inspector be compelled under a penalty, to faithfully discharge his duties.

Unlicensed premises have largely decreased in numbers.

I have the honour to be, Sir,
Your obedient servant,
WILLIAM SMITH,
Provincial Officer.

To the Hon. Adam Crooks,
Treasurer, Toronto.

SARNIA, 30th December, 1873.

SIR,—According to your request I beg leave to report upon the general working of the License Law, as at present in force in Ontario.

I consider that the Act cannot be much amended except with regard to saloons, which should be abolished altogether, as they are without doubt the greatest source of complaint. They give an endless amount of trouble to the authorities and the public generally, and are apparently of little or no use,

As to taverns, the standard of qualifications should be higher both in cities and towns, and I would recommend that such qualifications should not be less than ten bedrooms and fifteen beds. This would be the means of cutting off all the low groggeries.

The law so amended would be the means of doing great good to the community at large. A better class of men would be engaged in the traffic, who would desire to conform to the law: respectable taverns, with very few exceptions, have respectable landlords, who require but little supervision from the Inspector.

I would further suggest that the Local Inspectors for cities and towns should be appointed by the Government. They would then be free to act without reference to, or being influenced by, the local authorities.

I find that where an Inspector has been found fault with, and his case has been brought before the Council, there is always considerable conniving among his friends to clear him; and so long as he imagines that his friends are in the ascendancy in the Council, he does as he pleases.

I have the honour to be, Sir,
Your obedient servant,
E. P. WATSON.

The Hon. ADAM CROOKS, Treasurer,
Toronto, Ontario.

TORONTO, 1st December, 1873.

SIR,—In handing in this my last Report I would respectfully draw the attention of the Department to the following matters which have been forced upon my notice while travelling from place to place.

I found that the smaller villages, as a rule, were left to look after themselves, caused no doubt by the difficulty in getting a Local Inspector who has sufficient courage to inform upon his neighbours and so acquire their ill will. The pay of the Inspector is so small that he does not feel called upon to exercise much energy in the discharge of his duties, particularly when it is necessary that he should go into the townships.

Where the License was not exposed over the door as required by the Act, the party pleaded ignorance of the necessity thereof. Some plan should be adopted to give the necessary information to the applicant for a License as to what the requirements of the law are, that he may know what he undertakes to do.

Nearly all the tavern-keepers complain of the too early hour that they are obliged to close their bar-rooms on Saturday nights. If the hour were extended to suit the few it would at the same time be to the detriment of the many.

I have observed in the different places in which I happened to be on Saturday nights that an outward observance was paid to the requirements of the law, but I have reason to

think that it was only an outward observance, as there is a good deal of quiet selling both on Saturday nights and Sundays, which is difficult for a recognized Inspector to successfully inform against

The shop-keepers are accused of selling in small quantities to be drunk upon their premises and in some places the druggists come in under the same charge.

I have to mention having seen quite a number of Licenses endorsed by the Issuer at the proper time, but not having the endorsation of the municipality for months after, which fact must have been known to the municipal officers. If a clause could be inserted into the present law limiting the time say five to ten days, for issuing Licenses, and not afterwards, and at the same time make the penalty against the municipal authorities more stringent for allowing the municipal duty to remain unpaid. These remedies might do away with the evils I speak of, and at the same time they would be the means of limiting the number of Licenses issued.

I have the honour to be, Sir,
Your obedient servant,
ROBERT PETERS.

To the Hon. Adam Crooks,
Treaurer, Toronto, Ontario.

BRANTFORD, 18th December, 1873.

SIR,—Having inspected all the places required of me, and made my special Report thereon I beg to submit the following remarks:

I found the better class of citizens united in the opinion that in almost all of the towns and villages which I have visited too many Licenses for taverns have been issued. The result is that a large number of these are very inferior premises with wretched accommodation.

Many of the keepers of the better class of taverns complain that licensed shopkeepers do not conform with the requirements of the law, but sell by the pint and glass, and allow drinking on their premises. Such cases have not come under my own observation, but from the frequency of the complaints made I am persuaded that they are well founded.

In every place which I visited except Welland and Brantford, I found numbers of small taverns not having the accommodation required by law, and in many premises pretending to have the proper accommodation the beds in ordinary use of the family were taken into consideration.

Dunnville, Port Colborne, Fort Erie and Cayuga were particularly conspicuous in having a large number of small, ill-regulated and unnecessary taverns. In Cayuga as I learned on good authority, there is scarcely a pretence made towards observing the law. Houses are kept open until one o'clock in the morning as well as on Sundays.

With few exceptions none of the municipalities which I visited, have so far as I can learn taken advantage of the Act to limit by by-law, the number of Licenses to be issued. In my opinion this limit should be fixed by legislative enactment, as Municipal Councils are too much dependent upon the support of the classes dealing in liquors to act with entire independence in such matters.

I further think that the standard of accommodations for taverns in towns and villages of over one thousand or fifteen hundred inhabitants should be materially raised.

I have heard of but few complaints against shop-keepers selling without License. The complaints are against those as I before remarked, having a license who sell by the pint or glass.

I have the honour to be, Sir,
Your obedient servant,
RUSSEL HARDY.

To the Hon. Adam Crooks,
Treasurer, Toronto.

TORONTO, 30th December, 1873.

SIR,—I have the honour to report the completion of my tour of inspection.

The information furnished to your Department under the appropriate headings of the schedules are correct and reliable in every particular.

The immense influence wielded by tavern and saloon keepers in Dominion, Provincial, and Municipal elections, causes them to be courted by those whose especial duty it is to enforce the law.

After a careful consideration and from matters coming under my observation during my inspection, I would suggest some amendments to the law now in force.

The defendant should not be allowed to give evidence on his own behalf.

I am warranted in suggesting this from my own experience in prosecuting offenders, and also by the opinions of very many magistrates.

Only one transfer of a License should be allowed. If the party to whom a License has been transferred dies, or wishes to discontinue business, the License should expire.

No appeal should be allowed from any conviction had under the Act.

The advantages anticipated from the discontinuance of the sale of liquor at the Grand Trunk Railway Station Saloons are almost wholly counteracted by the easy access to the other saloons and taverns immediately adjoining the grounds of the company. I believe that the safety of life and property requires the law to be so amended as to prohibit municipalities from granting Licenses to sell liquor within forty rods of a railway.

A shop license should not be issued to any one engaged in any pursuit other than selling liquor. In nine cases out of ten, where general traders take out a shop license, the liquor therein sold is used as a decoy to lead customers on to purchase goods. Treating the customer and his family is the first preliminary to purchases.

A large proportion of licensed shop-keepers sell by the glass.

By referring to my report forwarded, you will observe that there are eight licensed shops on one street in the small town of Port Hope; nine on one street in Belleville, twenty-four in the whole City of Kingston, and eighty-six in Ottawa. So large a number of licensed shops exercise a baneful influence on the morals of the community, and the number should be curtailed.

In cities and towns there are three licensed taverns to one that is required for the accommodation of the public.

The Cities of Kingston and Ottawa are glaring instances of this One-half of the taverns in either city are simply grog holes in many instances kept by disreputable characters, and not a few of them gambling dens.

Respectfully submitted.

I have the honour to be, Sir,
Your obedient servant,
WM. MARTIN.

The Hon. Adam Crooks,
Treasurer, Toronto, Ontario.

STATEMENT, *showing the total number of the several kinds of Licenses issued during the year 1873:*

The total number of all kinds issued during the year 1873:
The total amount of revenue derived from the issue of Licenses during the year 1873:
The total amount of revenue derived from the issue of Licenses during the year 1872:
And the excess of revenue derived from Licenses issued during the year 1873 over that from Licenses issued during the year 1872.

Total number of city tavern Licenses issued during the year 1873	687
Total number of town tavern Licenses issued during the year 1873	655
Total number of township tavern Licenses issued during the year 1873	3256
Total number of vessel Licenses issued during the year 1873	17
Total number of shop Licenses issued during the year 1873	1322
Total number of saloon Licenses issued during the year 1873	111
Total number of Licenses of all kinds issued during the year 1873	6048

Total amount of revenue derived from Licenses issued during the year 1873	$82179 20
" " " " " " 1872	75355 96
Excess of 1873 over 1872	6823 24

The number of Licenses issued for 1872, as nearly as can be estimated is a little under the number issued for 1873.

A. Crooks,
Treasurer.

Henry Totten,
Clerk, Treasury Department.

Toronto, 31st December, 1873.

Sir,—With reference to the general working of the Tavern and Shop Licenses Acts in the City of Toronto, I have the honour to transmit schedules of information, furnished by William Smith, Provincial Officer, and to report thereon as follows:—

Of the 249 licensed taverns mentioned in such schedules, 121 have not the accommodation required by law. In some cases the requirements have been very nearly complied with, but in very many others they fall far short, and in some cases no pretence whatever is made to even partially fulfil the requirements. As the law limits the number of Saloon Licenses to be issued in cities to ten, I assume that after that number have been distributed, those who obtain Tavern Licenses having but saloon accommodation, must do so with the knowledge of the Municipal Inspector, because before a License can issue, the applicant must have produced to the Board of Police Commissioners the certificate of the Inspector, stating that the applicant has all the accommodation required by law. In some cases where these certificates have been granted, it is utterly impossible to suppose that the Inspector could have granted them believing them to be correct. Certificates have been granted to parties for a Tavern License for premises in which neither the petitioner nor his family resides. In such cases the intention must have been to evade the number of Saloon Licenses limited by the statute. In the city, the Issuer of Licenses is also the Municipal Inspector. As such Inspector he is required by by-law to act as secretary of the Board of Police Commissioners, and to keep minutes of their proceedings, to receive and keep a registry of all applications for certificates of Licenses or transfers, to ascertain that the petitions are correct and true, and to make an inspection of the premises and see if they have all the conveniences and accommodations required by law, and to report thereon, to ascertain by inspection and enquiry from time to time whether the persons receiving certificates for Licenses continue to comply with the provisions of the law, &c., &c. He is practically made responsible for the due observance of all the requirements of the law. From the nature of the duties required of him, he has a direct pecuniary interest in reporting favourably of all applicants, if his office is combined with that of Issuer of Licenses.

There are also many places to which Tavern Licenses have issued where the applicants also keep a shop in connection therewith, contrary to the by-law which says that no certificate shall be granted for a Tavern License to any person for any shop or place where any goods, wares, merchandise, or provisions are kept for sale.

Of the 126 licensed shops mentioned in the schedules, many have all of the appliances for selling by the glass, such as beer pumps, decanters, glasses, &c.

Many licensed shop-keepers are favourable to doing away with Shop Licenses altogether, alleging that they are forced to keep liquors on hand for sale, because their fellow-shop-keepers do so.

I would call your attention to some very peculiar cases of Licenses having been issued in the form of *transferred licenses*, the object thereof I do not quite understand. If a License has been destroyed, defaced or written over in the hands of the Issuer, before it has been issued, by returning it to this Department, a new one will be given in exchange.

In the cases referred to, the applicants appear to have been told that only one License remained, and that it was the last that would be issued this year; but that it had been ordered by or belonged to some other person, but was still under the control of the Issuer, and if the applicant did not take that one, he could get none other. There being no alternative in the mind of the petitioner, he accepted the proposal and by the process of transferring, in which the reputed original owner does not appear, and for which the Issuer demanded and received his fee of $2 00, the License issued to the petitioner, who at the time paid both the Provincial and Municipal fees. You will observe that in nearly all of the cases, the License, the city treasurer's receipt, and the transfer are dated on the same day, and in some cases these correspond with the date on which the License left this department,

and all are of a very recent date. The cases referred to are Nichols, on Adelaide Street; Miller, on Front Street; Nott, on Esplanade Street; Tuer, Osborne, O'Brien and Fitzgerald, on King Street; Martin, on Leader Lane; Ayre Lee and Lovey, on Queen Street, McConkey, Simcoe Street; Blair, Teranley Street; Stanley, Victoria Street; and Simpson, on York Street. It is possible that in some of these cases this mode of transferring a License before it has issued, may have arisen through the Board of Police Commissioners or one of them signing a certain number of certificates in blank with the understanding, in the absence of any by-law limiting the number, that these certificates should represent the number of Licenses to be issued for this year, and the Inspector or Issuer had without sufficient authority, filled in the certificate the name of a party who afterwards refused to take the License, or perhaps never applied for it, and the process of transferring was resorted to, to save the certificate, some of which bear date in February and March last, others are more recent.

On the twelfth day of May last, the Board of Police Commissioners passed an order that no more Tavern Licenses would be granted from that date. Upon examination of the returns of the Issuer, I find that fifteen have issued, twelve of which were received by the Issuer from this Department since that date, and the respective numbers of these correspond in many instances with those which I have heretofore specially mentioned as having been issued in the form of transferred licenses.

Licenses have also been treated as negotiable instruments. Parties giving up business and having no further use for their Licenses have sold them to others, and the Inspector has transferred them to be used in premises other than those to which they were originally issued.

The law is generally very badly executed throughout the city, and I believe that the association of the office of Municipal Inspector with that of License Issuer, is in a large measure the cause of it. As Inspector he appears to have made but one inspection annually, and all parties interested had a knowledge of such intention, and prepared themselves accordingly, in some cases, by borrowing beds from the second-hand dealers, and putting them up for the occasion.

The requirements for a tavern, as mentioned in 33 Vic., cap. 28, section 3, should be more clearly and definitely defined. An Inspector has held that the accommodation was sufficient where the applicant had divided a room into four parts with board partitions, into which he placed four beds, these being the only articles of furniture on the premises outside of the bar-room.

There is no doubt but that the law, as it now stands, were it properly executed, would give very general satisfaction. In the whole city only three unlicensed premises could be found.

There have been many breaches upon minor points, but these have arisen in almost all cases through ignorance of the requirements of the law.

STATEMENT.

The total number of Licenses issued for the City of Toronto during the year 1873 is as follows:—

Taverns	272
Shops	156
Saloons	10

Of the 249 taverns having Licenses, inspected by Provincial Officer Smith,

Those having the required accommodation, number	128
Those not having the required accommodation, number	121
Those having transfers endorsed thereon, number	63
Those appearing to have been transferred according to law, number	40
Those appearing to have been transferred not according to law, number	23

All which is respectfully submitted.

I have the honour to be, Sir,

Your obedient servant,

HENRY TOTTEN.

The Hon. Adam Crooks,
Treasurer, Toronto.

RETURN

To an Address of the Legislative Assembly to His Excellency the Lieutenant-Governor, praying that he will cause to be laid before this House,—

1st, Copies of all correspondence with the Dominion Government in reference to the chain allowance and Ordnance Lands along the Niagara River.

2nd, Copies of all papers and documents in the Crown Lands Department in reference to said lands.

3rd, Copies of all Orders in Council respecting any lease or leases of any part of said land.

4th, Copies of all leases of any part of said land at or near Niagara Falls.

By Command.

C. F. FRASER,
Secretary.

Provincial Secretary's Office,
Toronto, 8th January, 1874.

Copy of an Extract of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor-General in Council on the 23rd Nov., 1871.

On a memo. dated 20th November, 1871, from the Honourable the Secretary of State, representing that an application had been made by the Department of Crown Lands of the Province of Ontario, through His Honor Lieutenant-Governor Howland, dated 25th May, 1871, claiming that the Chain Reservation bordering on the Niagara River in front of Lots Nos. 1, 20, 21, 40, 41, 58, 59, 74, 75, 92, 145, 159, 160, 174, 175, 190, and part of Lot 191 in the Township of Stamford, had been surrendered by the Principal Officer of Ordnance, to Her Majesty the Queen, by an instrument dated 1st October, 1852; and that these lands then became ordinary Crown Lands, and as such, passed under the B. N. A. Act of 1867, to the Government of the Province of Ontario.

That the Hon. the Attorney-General and Minister of Justice, by his Report, dated 25th July, 1871, has reported that it seems clear that from the 1st October, 1852, this chain reserve along the top of the banks of the River Niagara, opposite to the lots as set out at the commencement of this memorandum (being enumerated above,) was Crown Lands of the late Province of Canada, and passed under the "B. N. A. Act of 1867," as being (section 9) lands belonging to the Province of Canada at the union, to the Province of Ontario in which the same are situate; and that there are (following the words of that section) no trusts existing in respect thereof and no interest other than that of the Province of Canada in the same. * * * * * * *

Certified.

(Signed) William H. Lee,
Clerk Privy Council.

Extract from a Report of a Committee of the Honourable the Executive Council on Land Applications, dated 9th December, 1852, approved by His Excellency the Governor-General in Council on the same day.

On the Report of the Commissioner of Crown Lands, dated 12th November, 1852, submitting an instrument bearing date 1st October, 1852, executed by James Sutton Elliott, Esq., on behalf of the Principal Officers of Her Majesty's Board of Ordnance, for the purpose of re-investing in the Crown certain lands bordering on the Niagara River, consisting of the chain reservation on the top of the bank situated in front of Lots Nos. 1, 20, 21, 40, 41, 58, 59, 74, 75 and 92, and also the reservation in front of Lots Nos. 145, 159, 160, 174, 175, 190, and part of No. 191 in the Township of Stamford, in the County of Welland.

The Committee recommend that the surrender be accepted, and be enrolled in the usual manner in the office of the Provincial Registrar.

Certified.

(Signed) WILLIAM H. LEE,
Acting Clerk E. C.

To the Honourable the Provincial Registrar,
&c., &c., &c.

To all to whom these presents shall come.

The Principal Officers of Her Majesty's Ordnance by James S. Elliott, Esq., Her Majesty's Ordnance Storekeeper in Canada, duly authorized and empowered in that behalf, according to the form of the Statute in such case made and provided, send greeting:—

Whereas, by and under the authority of the Act of Provincial Parliament of Canada, passed in the seventh year of the reign of Her Majesty Queen Victoria, chaptered eleven, and intituled an Act for vesting in the Principal Officers of Her Majesty's Ordnance the estates and property therein described, for granting certain powers to the said officers, and for other purposes therein mentioned, the lands, tenements and hereditaments hereinafter mentioned and described were amongst others, conveyed to and vested in the said Principal Officers for the time being in trust for Her Majesty, her heirs and successors, with the powers granted and subject to the provisions made in the said Act of Parliament in that behalf: And whereas by the said Act it is amongst other things in effect enacted that it shall be lawful for the said Principal Officers to sell, exchange or in any manner to dispose of any lands or other real property vested in them by virtue of the said Act, or any estate or interest therein so vested in them, either by public auction or private contract; or to convey, surrender, assign or make over, grant, demise or deliver the same (as the case may require), to any party willing to take the same in exchange or otherwise, and also to do any other matter or thing in relation to any such lands or other real property which shall by the said Principal Officers be deemed beneficial for the public service, and conducive to the better management and use of the property thereby vested in them, which might be done by any person having an estate or interest in the same of the same nature as shall be vested in or held by the said Principal Officers in trust as aforesaid: And whereas by the said Act it is also amongst other things in effect enacted, that it shall and may be lawful for any two or more of the said Principal Officers to exercise and execute all powers, authorities and duties, and to perform, do and execute all acts, deeds, matters and things appertaining to their office, which by virtue of the said Act, and by law, the said Principal Officers may exercise or execute, perform and do, and that the same shall be as valid and effectual to all intents and purposes as if exercised, executed, performed and done by all the said Principal Officers:

And that it shall also be lawful for any two or more of the said Principal Officers, and they are by the said Act empowered from time to time, and as occasion may require, to authorize and empower any person or persons, or any officer or officers, by his or their name or title of office, to exercise and execute all or any of the powers, authorities and duties, or to perform, and do and execute any acts, deeds, matters and things which by virtue of the said Act the said Principal Officers may exercise, execute, perform and do, as

validly and effectually as the said Principal Officers might exercise, execute, perform and do the same, and to revoke such authority at pleasure: and such authority shall, notwithstanding the death, resignation, or removal from office of the Principal Officers who shall have given the same, remain in force as if given by the Principal Officers for the time then being, until it shall be revoked by the Principal Officers for the time being, or any two of them:

And whereas the said James S. Elliott, Her Majesty's Ordnance Storekeeper in Canada, hath by an instrument bearing date the second day of August, 1844, under the hand and seal of two of the said Principal Officers, been duly authorized and empowered to exercise and execute the powers and authorities in the said Principal Officers vested amongst other things, as far as regards the granting, bargaining, selling, surrendering, releasing, quitting claim, enfeoffing, conveying and confirming of all or any of the lands, trusts, houses or premises under or by virtue of the said Act of Parliament vested in the said Principal Officers and which it may be expedient or necessary to grant, bargain, sell, surrender, release, quit claim, enfeoff, convey or confirm to Her Majesty, Her Heirs or Successors, or to any other person or persons, bodies politic or corporate whomsoever: And whereas such authority hath not been in any way annulled or revoked by the said Principal Officers or any two or more of them, but remains in full force, virtue and effect: And whereas the said lands, tenements, hereditaments and premises hereinafter described are not now required and are not likely to be required by the said Principal Officers for the purposes of defence, and it is deemed most for the public use that the same should be revested in the Crown for the public purposes of the Province, as the other public lands thereof and the same with the concurrence of the Lieutenant-General commanding Her Majesty's forces in this Province for the time being, has been accordingly agreed to be surrendered to and revested in Her Majesty accordingly: Now, therefore, these presents witness that, for the considerations aforesaid, and also for and in consideration of the sum of five shillings of lawful money of Canada, by Her Majesty's Receiver General for the Province of Canada, out of Her Majesty's Provincial Treasury to the said Principal Officers in hand paid at or bef re the sealing and delivery hereof, the receipt wher of is hereby acknowledged, they, the said Principal Officers, by such ordnance storekeeper as aforesaid, have granted, bargained, sold, surrendered, released, quitted claim, enfeoffed, conveyed and confirmed and by these presents do by the said ordnance storekeeper aforesaid grant, bargain, sell, surrender, release, quit claim, enfeoff, convey and confirm unto Her Majesty all and singular the lands, tenements, hereditaments and premises hereinafter mentioned and described, that is to say, all that certain parcel or tract of land situate, lying and being in the Township of Stamford, in the County of Welland, in Upper Canada, being composed of all the reserve along the top of the bank of the River Niagara, in front of lots numbers one, twenty, twenty-one, forty, forty-one, fifty-eight, fifty-nine, seventy-four, seventy-five, and ninety-two of the said township, and containing by admeasurement acres of land, be the same more or less, and which said parcel or tract of land is abutted and bounded or may be otherwise known as follows; that is to say, commencing in the northern limits of lot number one, at the distance of one chain from the top of the bank of the River Niagara; then southerly parallel to and always at the distance of one chain from the said top of the bank to the limit between lots numbers ninety-two and ninety-three; then east along the said limit to the water'sedge of the River Niagara; then northerly along the water's edge to the northern limit of lot number one aforesaid; then west along the said northern limit of lot number one to the place of beginning: Also all that certain other parcel or tract of land situate, lying and being in the said Township of Stamford, in the county aforesaid, being composed of all the reserve along the top of the bank of the said river Niagara, in front of lots number one hundred and forty-five and one hundred and fifty-nine, one hundred and sixty, one hundred and seventy-four, one hundred and seventy-five, one hundred and ninety, and part of one hundred and ninety-one, of the said township, containing such quantities of land as may be found reserved in the Crown Patents of the grants of the before mentioned lots, or may be otherwise known as follows: commencing in the limit between lots numbers one hundred and forty-four and one hundred and forty five, at the distance of one chain from the top of the bank of the River Niagara; then southerly and easterly parallel to and always at the distance of one chain from the said top of the bank to a line produced north from the west boundary of lot number one hundred and

ninety-two ; thence north along the aforesaid line to the water's edge of the river Niagara ; then westerly and southerly along the water's edge to the limit between lots numbers one hundred and forty-four and one hundred and forty-five ; then west along the said limit between lots numbers one hundred and forty-four and one hundred and forty-five to the place of beginning ; together with all and singular the houses, out-houses, buildings, wood ways, watercourses, easements, privileges, profits, hereditaments and appurtenances whatsoever to the said parcels or tracts of land, tenements, hereditaments and premises, or either of them, belonging to or in any wise appertaining or therewith used or enjoyed, or known or taken as part or parcel thereof, or as belonging thereto, or to any part thereof ; and the reversion and reversions, remainder and remainders, rents, issues and profits thereof ; and also all the estate, right, title, interest, trust, claim, property and demand, both at law or in equity, of them the said Principal Officers of, into or out of the same, or any part thereof, to have and to hold the same lands, tenements, hereditaments and premises hereby conveyed and surrendered, or mentioned, or intended so to be, with their and every of their appurtenances unto Her Majesty, Her Heirs and Successors for ever :

Provided always, nevertheless, that neither this conveyance, surrender and release, nor the words grant, bargain, sell, surrender, release, quit claim, enfeoff, convey and confirm, or any of them hereinbefore used by the said Principal Officers, nor anything herein contained on their part, shall extend, or be deemed or construed either at law or in equity to extend to either an express or implied warrant or covenant, for the title to the said lands, tenements, hereditaments and premises hereby surrendered, released and conveyed, or of their right, either at law or in equity, to surrender, release, convey, sell or dispose of the same, or any part thereof : These presents being expressly intended to operate merely to pass the estate or interest in or lien upon the said lands, tenements, hereditaments and premises which they, the said Principal Officers, now have or possibly may have upon the same, either under or by virtue of the said Act of Parliament or otherwise, howsoever anything herein contained to the contrary thereof in anywise notwithstanding.

In witness whereof, the said Principal Officers, by the said James S. Elliott, Her Majesty's Ordnance Storekeeper, so duly authorized and empowered in this behalf, as aforesaid, have hereunto set their hands and seals, at head-quarters, at the City of Montreal, in the Province of Canada, this first day of October, in the year of our Lord one thousand eight hundred and fifty-two, and in the sixteenth year of Her Majesty's reign.

[L. S.] (Signed) J. S. Elliott.

Signed, Sealed and Delivered,
in the presence of (Signed) Edw. Wilgress.

Certified to be a correct copy,
Thos. H. Johnson,
Assistant Commissioner.

Crown Lands Department,
Toronto, 13th May, 1873.

(No. 9.)

REPORT of the Queen's Printer on the disposal of the Ontario Statutes for the year 1873. *(Not printed.)*

SUPPLEMENTARY ESTIMATE

Of the amounts required to meet the expenditure of the Province from the first day of January, 1874, till the Estimates for the year 1874 are finally passed:—

CIVIL GOVERNMENT.

Government House—Maintenance	$ 400 00
Lieutenant-Governor's Office	392 10
Attorney-General's and Executive Council Office	1,575 22
Treasury Department	2,341 67
Provincial Secretary's Office	2,366 72
Public Works Department	5,953 31
Crown Land Department	7,474 96
Legislative Assembly	1,741 70
Departmental Contingences	5,000 00
Inspector of Division Courts—Salaries and Expenses	383 33
Queen's Printer—Salary and Cost of Official Gazette	900 00

LEGISLATION.

Salaries	2,500 00
Sessional Writers, Messengers and Pages	4,000 00
Postages	2,000 00
Indemnity to, and Mileage of Members	45,000 00

ADMINISTRATION OF JUSTICE.

Court of Chancery—Salaries	856 64
Court of Queen's Bench—Salaries	1,236 92
Court of Common Pleas—Salaries	810 01
Master's Office—Salaries	900 00
Accountant—Salaries	456 71
Criminal Justice and Crown Counsel Prosecutions	30,000 00

PUBLIC WORKS AND BUILDINGS.

On account of this Service	70,000 00

PUBLIC INSTITUTIONS.

Asylum for the Insane, *Toronto*	15,000 00
Asylum for the Insane, *London*	14,000 00
Deaf and Dumb Institute, *Belleville*	6,000 00
Institution for the Blind, *Brantford*	5,000 00
Reformatory Maintenance and Salaries	5,000 00
Central Prison Maintenance	4,000 00

IMMIGRATION.

On Account of this Service	33,746 00

EDUCATION.

Public and Separate Schools	$6,000 00
Poor Schools	1,000 00
Public School Inspection	500 00
Collegiate Institutes and High Schools	42,000 00
Inspection of High Schools	1,200 00
County Examinations	500 00
Teachers' Institutes	1,000 00
Superannuated Teachers	500 00
Normal School	4,322 00
Museum	1,000 00
Journal of Education	567 00
Maps, Apparatus, &c	10,000 00
Depository	1,610 00
Education Office	3,070 00

CHARGES ON REVENUE.

Miscellaneous—License and Stamp Office	200 00

CROWN LANDS EXPENDITURE.

Colonization Roads	13,000 00
Surveys	10,000 00
Contingencies	1,000 00
Refunds	2,500 00
Wood Ranging	3,500 00
Agents' Salaries	3,000 00
Inspectors valuing lands	800 00
Total	376,304 29

The Lieutenant-Governor transmits Estimates of certain sums required for the service of the Province for the year ending 31st December, 1874, accompanied by a Statement showing the amount required to complete the service of 1873; and recommends the Estimates and Statement to the Legislative Assembly.

ESTIMATES.

For the service of the year 1874	$2,625,270 38
For the service of the year 1873	42,225 21
Total	$2,667,495 59

SUPPLEMENTARY ESTIMATES, 1874.

1. To defray the expenses of the Government House for maintenance, as follow :—

Assistant Gardener	$330 00	
Plants, Conservatory	300 00	
		$630 00

2. To defray the expenses of the Executive Council Office and Public Works Department, as follow :—

Rent of Offices	$1,200 00

3. To defray the expenses of the Secretary and Registrar's Office, as follow :—

Extra writers, to enable compliance with Sec. 81, Cap. 29, of 31 *Vic*	$300 00	
Contingencies short estimated for	950 00	
		$1,250 00

4. To defray the expenses of Administration of Justice, as follow :—

Court of Chancery, additional clerk	$600 00

5. To defray the expenses of Education, as follow :—

Council of Public Instruction, revising text books	$1,000 00	
Medals for Competition, Teachers' Examination	400 00	
Pensions for First and Second-class Teachers and High School Masters	2,000 00	
		$3,100 00

6. To defray the expenses of Public Institutions, as follow :—

School of Agriculture, maintenance	$10,000 00	
Seeds, manure, hay, grain, &c.	2,500 00	
Horses, stock, plant, implements	7,500 00	
Contingencies	2,500 00	
		$22,500 00

7. To defray the expenses of Legislation, as follow :—

Printing Bills and distributing Statutes	$3,000 00

8. To defray the expenses of Public Buildings, as follow :—

Parliament and Departmental Buildings, fitting up Members' Rooms	$999 25

9. To defray the expenses of the Central Prison, as follow :—

Water pipes, iron tanks, and connections to forge	$3,506 07	
Belting, excess of appropriation	597 63	
		$4,103 70

10. To defray the expenses of the Blind Institute, as follow :—

Amount due to *H. J*, and *R. T. Sutton*, on contract, for completion as finally adjusted by Mr. *Tully*	$3,646 63

11. To defray the expenses of the Agricultural Farm *Mimico*, as follow :—

Award to *H. J.* and *R. T. Sutton*	$1,992 50	
Costs as taxed	154 00	
		$2,146 50

12. To defray the expenses of the Deaf and Dumb Institute, as follow :—

Steam pump at Engine House	$700 00	
Barn, root-houses and fences	315 87	
		$1,015 87

13. To defray the expenses of the *Orillia* Asylum, as follow :—

Repairs	$200 00

14. To defray the expences of the Registry Office *Sault Ste. Marie*, as follow :—

Stone building with vault, land, &c.	$1,200 00

15. To defray the expenses of charges on Crown Lands, as follow :—

Defining boundary between the Provinces of *Ontario* and *Quebec* omitted in the Estimates	$10,000 00

16. To defray Miscellaneous Expenses, as follow :—

To refund fees on Orange Bills of 1873	$120 00	
John Montgomery, compensation for claim against Province of *Upper Canada*	3,000 00	
Consolidation of Statute Laws relating to *Ontario*	5,000 00	
To pay Law Society, in connection with transfer of their property to the Province	2,000 00	
		$10,120 00

ESTIMATES

OF THE

PROVINCE OF ONTARIO,

FOR THE

FINANCIAL YEAR ENDING 31ST DECEMBER,

1874.

Toronto:
PRINTED BY HUNTER, ROSE & CO., 86 & 88 KING STREET WEST.
1874.

SUMMARY

Of the estimated expenditures of the Province of Ontario, for the Financial year ending 31st December, 1874.

No.	SERVICES.	Page.	To be voted. For current expenditure.	To be voted. On capital account.	To be voted. For other purposes.
			$ cts.	$ cts.	$ cts.
I.	Civil Government	3	148,877 00		
II.	Legislation	6	112,050 00		
III.	Administration of Justice	8	206,060 00		
IV.	Education	10	500,200 00		
V.	Public Institutions, Maintenance.	14	335,375 00		
VI.	Immigration	19	133,464 00		
VII.	Agriculture, Arts, Literary and Scientific Institutions	20	90,200 00		
VIII.	Hospitals and Charities	21	43,020 00		
IX.	Miscellaneous Expenditure	21	17,800 00		
X.	Unforeseen and Unprovided	22	50,000 00		
XI.	Public Buildings—				
	(1) Repairs and maintenance	22	3,800 00		
	(2) Capital account			322,701 70	
XII.	Public Works—				
	(1) Repairs and maintenance	25	3,200 00		
	(2) Capital account			173,281 82	
XIII.	Colonization Roads	26		100,000 00	
XIV.	Charges on Crown Lands	28	147,467 00		
XV.	Refund Account	29			220,016 90
XVI.	To complete Services and to cover Unpaid Accounts for 1873	30		17,756 96	42,225 21
	Totals		1,791,513 00	613,740 48	262,242 11

1	Current expenditure for 1874	1,791,513 00
2	On capital account	613,740 48
3	Other purposes	262,242 11
	Amount of estimates	2,667,495 59

ESTIMATES

OF THE

PROVINCE OF ONTARIO,

FOR THE YEAR 1874.

I.—CIVIL GOVERNMENT.

To be voted per Statement (A).....$148,877 00.

No. of Vote.	A.	Details.	To be voted for 1874.	Voted in 1873.
	To Salaries and Contingencies of the several Departments at Toronto :—		$ cts.	$ cts.
1	Government House	(a)	5,880 00	5,902 00
2	Lieutenant-Governor's Office	(b)	2,500 00	2,500 00
3	Executive Council and Attorney-General's Department	(c)	12,130 00	12,130 00
4	Treasury Department	(d)	17,250 00	15,440 00
5	Secretary and Registrar's Office	(e)	21,845 00	23,355 00
6	Department of Public Works	(f)	17,502 00	
7	Do Agriculture	(g)	1,000 00	26,942 00
8	Do Immigration	(h)	1,400 00	
9	Public Institutions	(i)	5,450 00	
10	Crown Lands Department	(j)	50,130 00	50,130 00
11	Miscellaneous	(k)	14,290 00	14,300 00
			148,877 00	150,699 00

SERVICE.	To be voted for 1874.	Voted in 1873.
CIVIL GOVERNMENT.	$ cts.	$ cts.
(a) Government House.		
Water	265 00	265 00
Gas	800 00	800 00
Fuel	2,300 00	2,300 00
Repairs	800 00	800 00
Furnishings	500 00	500 00
Planting	200 00	200 00
Gardener, with house and fuel	410 00	372 00
Caretaker	365 00	365 00
Incidentals (clearing away snow, carting ashes, sweeping flues, &c.)	240 00	300 00
	5,880 00	5,902 00

I.—CIVIL GOVERNMENT.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
	$ cts.	$ cts.
(b) LIEUTENANT-GOVERNOR'S OFFICE.		
Private Secretary's salary	1,000 00	800 00
Official Secretary's salary	800 00	1,000 00
Messenger	400 00	400 00
Contingencies	300 00	300 00
	2,500 00	2,500 00
(c) EXECUTIVE COUNCIL AND ATTORNEY-GENERAL'S OFFICE.		
Attorney-General and Premier, salary	4,000 00	4,000 00
Clerk, Executive Council and Attorney-General's Department	2,800 00	2,800 00
Secretary to Executive Council	1,000 00	1,000 00
Assistant Clerk, Attorney-General's department	700 00	700 00
Second do do	500 00	500 00
Caretaker and Messenger, with house, fuel and light	450 00	450 00
Towards establishing a Law Library	400 00	400 00
Contingencies, including stationery and repairs	1,500 00	1,500 00
Rent, Fuel, Gas, and Water	780 00	780 00
	12,130 00	12,130 00
(d) TREASURER'S OFFICE.		
Treasurer, salary	3,200 00	3,200 00
Accountant, do	1,800 00	1,800 00
Clerk, do	1,200 00	1,200 00
Do do	1,100 00	1,100 00
Do do	900 00	900 00
Do do	700 00	700 00
Auditor, do	2,000 00	2,000 00
Bookkeeper, do	1,100 00	1,100 00
Clerk, do	800 00	800 00
Messenger and Clerk, salary	450 00	450 00
Contingencies	1,200 00	1,200 00
Cost of maintenance of east wing, including repairs, ½ formerly charged each department	2,000 00	
Housekeeper, with house, fuel and light	400 00	
Fireman	400 00	
	17,250 00	14,450 00
(e) SECRETARY AND REGISTRAR'S OFFICE.		
Secretary and Registrar's salary	3,200 00	3,200 00
Assistant Secretary, do	1,600 00	1,600 00
Clerk, do	900 00	900 00
Do do	700 00	700 00
Do do	350 00	350 00
Deputy Registrar, do	1,200 00	1,200 00
Clerk, do	750 00	750 00
Do do	600 00	600 00
Extra Writers, to enable compliance with Sec. 81, cap. 29 of 31st Vic.		300 00
Messenger	400 00	400 00
Contingencies	700 00	1,200 00
	10,400 00	11,200 00
Registrar-General—Branch.		
First Clerk	1,000 00	1,000 00
Clerk	700 00	700 00
Four Clerks, $700 each	2,800 00	2,800 00
Books	500 00	500 00
Indices	200 00	200 00
Schedules, slips and circulars	1,200 00	1,000 00
Payments to District Registrars	3,700 00	3,700 00

I.—CIVIL GOVERNMENT.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
Registrar-General—Branch.—Continued.	$ cts.	$ cts.
Books for District Registrars	250 00	250 00
Disbursements of do	300 00	300 00
Stationery and printing	400 00	400 00
Postages	150 00	150 00
Express charges	75 00	150 00
Contingencies and incidentals for this Branch	170 00	250 00
	11,445 00	11,400 00
(f) Department of Public Works.		
Commissioner	3,200 00	3,200 00
Architect	2,200 00	2,200 00
Engineer	1,800 00	1,800 00
Secretary of Public Works	1,600 00	1,600 00
Accountant and Law Clerk	1,200 00	1,200 00
Architectural Draughtsman	939 00	939 00
Engineering do	939 00	939 00
Assistant do	800 00	800 00
First Clerk	800 00	800 00
Second do	600 00	600 00
Third do	400 00	400 00
Carpenter engaged on public buildings generally	624 00	624 00
Messenger	400 00	400 00
Contingencies	2,000 00	3,000 00
	17,502 00	18,502 00
(g) Department of Agriculture.		
Secretary	800 00	800 00
Contingencies	200 00	
	1,000 00	800 00
(h) Department of Immigration.		
Secretary	1,200 00	1,200 00
Contingencies	200 00	
	1,400 00	1,200 00
(i) Public Institutions.		
Inspector	3,000 00	3,000 00
Clerk	1,200 00	1,200 00
Do	600 00	600 00
Travelling expenses	450 00	650 00
Contingencies	200 00	
	5,450 00	5,450 00
(j) Crown Lands Department.		
Commissioner, salary	3,200 00	3,200 00
Assistant Commissioner	2,800 00	2,800 00
Law Clerk	1,600 00	1,600 00
Shorthand Writer and Clerk	1,000 00	1,000 00
Land Sales and Free Grants :—		
Chief Clerk, salary	2,000 00	2,000 00
Clerk, do	1,700 00	1,700 00
Do do	1,250 00	1,250 00
Do do	850 00	850 00
Do do	850 00	850 00
	15,250 00	15,250 00

I.—CIVIL GOVERNMENT.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
CROWN LANDS DEPARTMENT.—*Continued.*	$ cts.	$ cts.
Surveys, Patents and Roads:		
Deputy Surveyor-General, salary	2,000 00	2,000 00
Clerk, do	1,380 00	1,380 00
Do do	1,250 00	1,250 00
Chief Clerk Patents, do	1,800 00	1,800 00
Clerk, do	1,100 00	1,100 00
Do do	800 00	800 00
Superintendent of Colonization Roads, salary	1,800 00	1,800 00
Woods and Forests:		
Chief Clerk, salary	2,000 00	2,000 00
Clerk, do	1,400 00	1,400 00
Do do	850 00	850 00
Do do	550 00	550 00
Accounts:		
Accountant, salary	2,000 00	2,000 00
Bookkeeper, do	1,250 00	1,250 00
Clerk, do	1,250 00	1,250 00
Do do	850 00	850 00
Registrar, salary	1,600 00	1,600 00
Housekeeper, with house, fuel and light	500 00	500 00
Messenger, do do	500 00	500 00
Contingencies, including repairs, West wing	12,000 00	12,000 00
	50,130 00	50,130 00
(*k*) MISCELLANEOUS.		
To cover gratuities to officers whose services may be dispensed with	5,000 00	5,000 00
Cost of Official Gazette	3,500 00	3,500 00
Queen's Printer, salary	1,200 00	1,200 00
Clerk	240 00	
Inspector of Registry offices (including travelling expenses)	2,000 00	2,000 00
Inspector of Division Courts	1,400 00	1,400 00
Do Travelling expenses	650 00	900 00
pection of offices of Deputy Clerks of the Crown, Deputy Masters and Registrars in Chancery and County Courts, travelling expenses	300 00	300 00
	14,290 00	14,300 00

II.—LEGISLATION.

To be voted per Statement (A)..... .....$112,050 00.

No. of Vote.	A.	Details.	To be voted for 1874.	Voted in 1873.
			$ cts.	$ cts.
1	Legislation	(*a*)	112,050 00	117,550 00

II.—LEGISLATION.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
(a) LEGISLATION.	$ cts.	$ cts.
Details.		
Mr. Speaker's salary	1,500 00	1,500 00
Clerk of the House, salary	1,800 00	1,800 00
Clerk of Private Bills	1,200 00	1,200 00
Law Clerk	1,000 00	1,000 00
Clerk of Routine and Records	900 00	900 00
Clerk	600 00	600 00
Librarian	1,200 00	1,200 00
Clerk of the Crown in Chancery	400 00	400 00
Accountant of the House and Stationery Clerk (also Queen's Printer)	400 00	400 00
Sergeant-at-Arms	600 00	600 00
Housekeeper and Chief Messenger, with house, fuel and light	600 00	600 00
Three Messengers	1,350 00	1,350 00
Fireman	400 00	400 00
Night Watchman	400 00	400 00
Sessional Writers, Messengers and Pages	5,000 00	5,000 00
Postages and Cost of House Post Office	4,000 00	4,000 00
Stationery, including Printing Paper, Printing and Binding	20,000 00	25,000 00
Printing Bills and distributing Statutes	3 000 00	3,000 00
Expenses of Elections	2,500 00	5,000 00
Do Contested Elections	1,000 00	1,000 00
Increase of Library	5,000 00	5,000 00
Indemnity to Members, including Mileage	50,000 00	48,000 00
Contingencies, (including say $1,000 for subscriptions to newspapers and periodicals)	4,000 00	4,000 00
Repairs and furniture	2,350 00	2,350 00
Fuel	1,100 00	1,100 00
Gas and other lighting	1,200 00	1,200 00
Water	350 00	350 00
Incidentals	200 00	200 00
	112,050 00	117,550 00

III.—ADMINISTRATION OF JUSTICE.

To be voted per Statement (A)..... ..... $206,060 00.

No. of Vote.	A.	Details.	To be voted for 1874.	Voted in 1873.
			$ cts.	$ cts.
1	Court of Chancery	(a)	20,330 00	20,660 00
2	Court of Queen's Bench	(b)	8 770 00	8,170 00
3	Court of Common Pleas	(c)	5,110 00	5,110 00
4	Superior Judges	(d)	10,050 00	10,050 00
5	Criminal Justice	(e)	121,000 00	151,000 00
6	Miscellaneous Justice	(f)	40,800 00	38,600 00
			206,060 00	233,590 00

SERVICE.	To be voted for 1874.	Voted in 1873.
Details.	$ cts.	$ cts.
(a) COURT OF CHANCERY.		
Master's salary	3,000 00	3,000 00
Taxing Officer, salary	1,200 00	1,200 00
Clerk, do	1.200 00	1,200 00
Accountant, do	2,240 00	2,240 00
Clerk, do	500 00	500 00
Registrar, do	1,840 00	1,840 00
Clerk Registrar's Office, salary	1,200 00	1,200 00
Do of Records, do	1,000 00	1,000 00
Do do	600 00	600 00
Do do	500 00	500 00
Referee in Chambers, do	2,000 00	2,000 00
Clerk do do	1,000 00	1,000 00
Usher of Court, do	450 00	450 00
Clerk of Surrogate Court, do	1,600 00	1,600 00
Messenger and Housekeeper, with house, fuel and light	400 00	400 00
Contingencies, including $200 for Judges' Library	1,600 00	1,930 00
	20,330 00	20,660 00
(b) COURT OF QUEEN'S BENCH.		
Clerk of Crown and Pleas, including duties in Judges' Chambers, assigned to him under Act 33 Vic., cap. 11, Ontario Statutes	3,000 00	3,000 00
Senior Clerk, salary	1,200 00	1,200 00
Clerk, do	1,000 00	1,000 00
Junior do do	600 00	
Clerk of Process, do	1,400 00	1,400 00
Housekeeper and Messenger, with house, fuel and light	500 00	500 00
Usher and Crier, do	160 00	160 00
Assistant Messenger	160 00	160 00
Contingencies, including $100 for Judges' Library	750 00	750 00
	8,770 00	8,170 00
(c) COURT OF COMMON PLEAS.		
Clerk of Crown and Pleas, including duties as Inspector of Deputy Clerks of the Crown, &c.	2,500 00	2,500 00
Senior Clerk, salary	1,200 00	1,200 00
Junior do do	1,000 00	1,000 00
Usher and Crier, do	160 00	160 00
Contingencies, including $100 for Judges' Library	250 00	250 00
	5,110 00	5,110 00

III.—ADMINISTRATION OF JUSTICE.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
	$ cts.	$ cts.
(d) Superior Judges.		
Allowances granted by 33 Vic., cap. 5, Ontario Statutes	10,000 00	10,000 00
Usher and Crier	50 00	50 00
	10,050 00	10,050 00
(e) Criminal Justice.		
Crown Counsel Prosecutions	9,000 00	9,000 00
Administration of Criminal Justice	110,000 00	110,000 00
Special Services	2,000 00	2,000 00
	121,000 00	121,000 00
(f) Miscellaneous Justice.		
Deputy Clerks of the Crown and Pleas, salaries	16,000 00	16,000 00
District of Algoma.		
Sheriff's salary	1,400 00	1,400 00
Registrar, do	800 00	800 00
Clerk of the Peace and District Attorney	800 00	800 00
Clerk of the District Court	500 00	500 00
Administration of Justice	3,000 00	2,000 00
District of Thunder Bay.		
Stipendiary Magistrate and Registrar, salary	1,200 00	1,200 00
Administration of Justice	2,000 00	1,800 00
District of Nipissing.		
Stipendiary Magistrate and Registrar, salary	1,400 00	1,400 00
Administration of Justice	800 00	500 00
District of Parry Sound.		
Stipendiary Magistrate and Registrar, salary	1,200 00	1,200 00
Administration of Justice	500 00	500 00
District of Muskoka.		
Stipendiary Magistrate and Registrar, salary	1,000 00	1,000 00
Administration of Justice	500 00	300 00
Other Services.		
To pay Sheriffs, Criers and Constables in attending Courts of Chancery and County Courts, Deputy Clerks of the Crown and Pleas attending Assizes, and their postages, &c.	5,000 00	4,000 00
Seals and other contingencies	500 00	500 00
Registration Books for Muskoka, Parry Sound and Thunder Bay	200 00	200 00
Lighting and heating Osgoode Hall	3,000 00	3,000 00
Furniture, matting, &c., do	1,000 00	1,500 00
	40,800 00	38,600 00

IV.—EDUCATION.

To be voted per Statement (A)..... .... $500,200 00.

No. of Vote.	A.	Details.	To be voted for 1874.	Voted in 1873.
			$ cts.	$ cts.
1	Public and Separate Schools	(*a*)	240,000 00	220,000 00
2	Inspection of Public and Separate Schools	(*b*)	27,350 00	27,315 00
3	Schools in New and Poor Townships	(*c*)	6,000 00	6,000 00
4	Collegiate Institutes and High Schools	(*d*)	82,000 00	82,000 00
5	Inspection of Collegiate Institutes and High Schools	(*e*)	7,180 00	6,450 00
6	County Examination of Teachers	(*f*)	1,935 00	1,935 00
7	County Teachers' Institutes	(*g*)	2,800 00	2 800 00
8	Superannuated Teachers	(*h*)	23,100 00	19,608 00
9	Normal and Model Schools, Salaries	(*i*)	16,900 00	16,900 00
10	do Contingencies and Repairs	(*j*)	7,065 00	8,798 86
11	Educational Museum Library	(*k*)	3,900 00	3,630 00
12	Journal of Education	(*l*)	2,600 00	2,940 00
13	Maps, Apparatus and Library Books	(*m*)	50,000 00	50,000 00
14	Educational Depository, Salaries	(*n*)	4,855 00	5,095 00
15	do Contingencies	(*o*)	4,335 00	4,060 00
16	Education Office, Salaries	(*p*)	14,040 00	13,615 00
17	do Contingencies and Repairs	(*q*)	5,240 00	5,190 00
18	Council of Public Instruction	(*r*)	900 00	900 00
			500,200 00	477,236 86

SERVICE.	To be voted for 1874.	Voted in 1873.
Details.	$ cts.	$ cts.
(*a*) Public and Separate Schools	240,000 00	220,000 00
(*b*) Inspection of Public and Separate Schools.		
4,800 schools and departments at $5	24,000 00	24,000 00
Additional cost of inspecting and organizing schools in the Algoma, Nipissing and other remote settlements	2,500 00	2,500 00
Printing inspector's annual and special Reports, including paper	450 00	435 00
Postages, stationery and contingencies	400 00	380 00
	27,350 00	27,315 00
Schools in New and Poor Townships	6,000 00	6,000 00
(*d*) Collegiate Institutes and High Schools.		
Existing High Schools	72,000 00	72,000 00
New do	2,500 00	2,500 00
Collegiate Institutes	7,500 00	7,500 00
	82,000 00	82,000 00
(*e*) Inspection of Collegiate Institutes and High Schools.		
Three inspectors' salaries	6,000 00	6,000 00
Office and inspectors' stationery, printing examination papers, postage and contingencies	1,180 00	450 00
	7,180 00	6,450 00

IV.—EDUCATION.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
	$ cts.	$ cts.
(*f*) County Examinations of Public School Teachers.		
Central Committee of Examiners	800 00	800 00
Printing examination papers, forms of certificates, &c.	750 00	750 00
Postages, stationery and contingencies	385 00	385 00
	1,935 00	1,935 00
(*g*) County Teachers' Institutes	2,500 00	2,800 00
Printing, Stationery and contingencies	300 00	.....
	2,800 00	2,800 00
(*h*) Superannuated Public School Teachers.		
Annual retiring allowance to 175 old teachers	23,100 00	19,608 00
Note.—This is reduced by revenue derived from subscriptions which may be estimated at $11,000 for 1874.		
(*i*) Normal and Model Schools.		
Salaries:		
The Principal	2,000 00	2,000 00
Mathematical Master	1,500 00	1,500 00
Science Master	1,500 00	1,500 00
Writing and Book-keeping Master	900 00	900 00
Drawing Master	400 00	400 00
Music Master	400 00	400 00
Gymnastic Master	300 00	300 00
Head Master of Boys' Model School	1,100 00	1,100 00
First Assistant do	900 00	900 00
Second do do	700 00	700 00
Third do do	600 00	600 00
Head Mistress of Girls' Model School	900 00	900 00
First Assistant do	700 00	700 00
Second do do	600 00	600 00
Third do do	550 00	550 00
Clerk of the Normal and Model School	600 00	600 00
Head Gardener and Keeper of Grounds, with house and fuel	410 00	410 00
First Engineer, with fuel and rooms	410 00	410 00
Second do	400 00	400 00
Third do	360 00	360 00
Janitor of Normal School, including scrubbing, washing, &c.	420 00	450 00
Do Boys' Model School	410 00	420 00
Do Girls' do	400 00	400 00
Assistant Gardener	400 00	400 00
Note.—The receipts from the Model School fees paid into the Provincial Treasury, are now about $9,000 per annum.	16,900 00	16,900 0
(*j*) Normal and Model Schools.		
Contingencies:		
Half cost of stationery and text-books (other half paid by the students)	2,500 00	2,500 00
Half cost of maps, apparatus and library books (other half paid out of library, map and apparatus grant)	550 00	550 0
Half cost of prize books for Model School pupils (other half paid out of library, map and apparatus grant)	250 00	250 00
Text and reference books for masters and reading room for students	150 00	150 00
Printing and stationery, chemicals and supplies	500 00	500 00
Expenses of grounds, plants and plant-house	600 00	600 00
Fuel and light	1,585 00	1,585 00
Water	380 00	380 00
Contingencies	550 00	550 00
	7,065 00	7,065 00

IV.—EDUCATION.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
	$ cts.	$ cts.
(*k*) Provincial Educational Museum and Library.		
Specimens of school furniture and fittings, apparatus and maps, text books and works on education	1,000 00	1,850 00
Various models	200 00	275 00
Books and illustrations of Canadian history	200 00	
Casts, photographs and engravings	200 00	680 00
Frames, glass, painting and fittings	200 00	
Binding 1,500 volumes half calf of Canadian books and pamphlets	1,000 00	
Restoring casts, pictures and re-colouring rooms	300 00	475 00
Fuel, water and light	350 00	350 00
Printing, furnishings and contingencies	250 00	
Caretaker	200 00	200 00
	3,900 00	3,830 00
(*l*) Journal of Education.		
Printing, folding and mailing 6,250 copies, at $150 per month	1,800 00	1,740 00
Postages on 6,250 copies, at $25 per per month	300 00	300 00
Plans for school houses and grounds	200 00	150 00
Engraving plans of new school houses in Ontario and other illustrations	200 00	250 00
Periodicals and contingencies	100 00	100 00
	2,600 00	2,540 00
Note.—Salary of Editor transferred to Education Office.		
(*m*) Maps, Apparatus, Library and Prize Books	50,000 00	50,000 00
(*n*) Educational Depository.		
Salaries:		
Clerk of Libraries	1,400 00	1,400 00
Cashier and Assistant Clerk	800 00	800 00
Despatch Clerk	500 00	500 00
Clerk of Sales	365 00	365 00
Do Stores	400 00	400 00
Do Stock	365 00	365 00
Do Invoices	300 00	300 00
Copying Clerk	200 00	200 00
Junior Assistant Clerk	160 00	160 00
Furnaceman and Messenger	365 00	365 00
	4,855 00	4,855 00
(*o*) Educational Depository.		
Contingencies:		
Postages	450 00	450 00
Stationery	485 00	485 00
Fuel, water and light	525 00	525 00
Printing forms and circulars	375 00	375 00
Printing new catalogue (re-vote)	400 00	400 00
Miscellaneous printing	275 00	
Expenses of purchases and revising arrangements in England and United States (re-vote)	675 00	675 00
Packing paper, twine, nails, &c.	350 00	350 00
Shelving, fixtures and painting	325 00	325 00
Furnishings and contingencies	475 00	475 00
	4,335 00	4,060 00

IV.—EDUCATION.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
(*p*) Education Office.	$ cts.	$ cts.
Salaries:		
Chief Superintendent	4,000 00	4,000 00
Deputy Superintendent and Editor of Journal of Education	2,800 00	2,800 00
Chief Clerk and Accountant Clerk to Council of Public Instruction	1,800 00	1,800 00
Clerk of Statistics	1,200 00	1,200 00
Do Records	1,000 00	1,000 00
Do Correspondence	900 00	900 00
Do References	450 00	450 00
Assistant Clerk of Correspondence	440 00	440 00
Clerk of Reports and Returns	400 00	400 00
General Assistant Clerk	350 00	350 00
Junior do	200 00	200 00
Caretaker, including all allowance for cleaning, washing and scrubbing	500 00	500 00
	14,040 00	14,040 00
(*q*) Education Office.		
Contingencies:		
Postages	550 00	550 00
Printing circulars, blanks and paper	600 00	600 00
Fuel and light	480 00	480 00
Office stationery and account books	350 00	350 00
Books, newspapers, law and other reports	185 00	185 00
5,000 Public School registers of daily attendance of pupils	450 00	450 00
5,000 Public School Law (re-vote)	650 00	650 00
15,000 yearly and half-yearly blank forms, for trustees, &c	275 00	275 00
Law appeal cases (re-vote)	250 00	250 00
Office furniture and fixtures, petty repairs and various incidentals	450 00	450 00
5,750 copies Chief Superintendent's report, 1874	1,000 00	.....
	5,240 00	4,240 00
(*r*) Council of Public Instruction.		
Travelling expenses of members (re-vote)	600 00	600 00
Expenses of elections and printing (re-vote)	250 00	250 00
Contingencies (re-vote)	50 00	50 00
	900 00	900 00

V.—PUBLIC INSTITUTIONS, MAINTENANCE.

To be voted per Statement (A).....$335,375 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts
1	Asylum for the Insane, Toronto	81,748 00	82,357 06
2	Do London, and Idiot Asylum Branch of same	80,342 00	72,002 00
3	Do Kingston	52,195 00	49,335 00
4	Provincial Reformatory, Penetanguishene	21,794 00	22,512 00
5	Central Prison	41,690 00	
6	Institution for the Deaf and Dumb, Belleville	31,234 00	29,832 00
7	Do Blind, Brantford	20,572 00	20,624 00
8	School of Agriculture		
9	Do Practical Science	5,800 00	5,800 00
		335,375 00	282,462 00

SERVICE.	To be voted for 1874.	—
Details.	$ cts.	$ cts.
1. Asylum for the Insane, Toronto, 640 Patients.		
Medicine and medical comforts	350 00	
Fuel	12,000 00	
Butchers' meat	10,900 00	
Flour	9,000 00	
Butter	3,800 00	
Beer, wine and spirits	1,850 00	
Gas and oil	2,300 00	
Groceries	6,000 00	
Fruit and vegetables	750 00	
Bedding, clothing and shoes	6,000 00	
Furniture and furnishings	600 00	
Laundry and soap	1,200 00	
Farm	2,000 00	
Miscellaneous	1,800 00	
Repairs and alterations	2,000 00	
Salaries and Wages. — No. of officers and employees.		
Medical Superintendent — 1	2,000 00	
Assistant do — 1	1,000 00	
Clinical Assistants — 3	700 00	
Bursar — 1	1,400 00	
Bursar's Clerk — 1	300 00	
Steward — 1	600 00	
Matron — 1	400 00	
Assistant Matron — 1	192 00	
Engineer — 1	740 00	
Assistant Engineer — 1	432 00	
Stokers — 2	480 00	
Carpenters — 2	1,050 00	
Gardener — 1	216 00	
Assistant Gardener — 1	216 00	
Porter or Messenger — 1	240 00	
Baker — 1	288 00	
Tailor — 1	264 00	
	71,068 00	

V.—PUBLIC INSTITUTIONS, MAINTENANCE.—*Continued.*

SERVICE.			To be voted for 1874.	—
1. ASYLUM FOR THE INSANE, TORONTO.—*Continued.*			$ cts.	$ cts.
Salaries and Wages.—Continued.	No. of officers and employees.			
Farmer and Assistant	2	....	456 00	
Night Watchers	3	....	720 00	
Chief Attendants	3	....	792 00	
Ordinary Male Attendants	21	....	4,464 00	
Females.				
Ordinary Female Attendants	23	....	1,968 00	
Night Attendants	3	....	360 00	
Cooks	8	....	732 00	
Laundresses	7	....	612 00	
Housemaids	6	....	468 00	
Seamstress	1	....	108 00	
	98		81,748 00	
ASYLUM FOR THE INSANE, LONDON, 600 PATIENTS.				
Medicine and medical comforts			300 00	
Fuel (including Idiot Asylum)			12,100 00	
Butchers' meat			10,500 00	
Flour			8,000 00	
Butter			3,250 00	
Beer, wine and spirits			1,850 00	
Gas and oil			2,100 00	
Groceries			6,000 00	
Fruit and vegetables			750 00	
Bedding, clothing and shoes			6,400 00	
Furniture and furnishings			1,500 00	
Laundry and soap			1,500 00	
Farm, feed and fodder			2,000 00	
Miscellaneous			2,000 00	
Repairs and alterations			1,500 00	
Salaries and Wages.	No. of officers and employees.			
Medical Superintendent	1	....	2,000 00	
Assistant do	1	....	1,000 00	
Clinical Assistant	1	....	400 00	
Bursar	1	....	1,200 00	
Steward	1	....	600 00	
Matron	1	....	400 00	
Engineer	1	....	740 00	
Assistant Engineer	1	....	400 00	
Stokers (1 for Idiot Asylum)	2	....	480 00	
Carpenters	2	....	1,000 00	
Gardener	1	....	400 00	
Assistant Gardener	1	....	240 00	
Butcher	1	....	192 00	
Porter or Messenger	1	....	192 00	
Baker	1	....	360 00	
Tailor	1	....	264 00	
Farmer	1	....	400 00	
Ploughmen	2	....	672 00	
Night Watchers	2	....	480 00	
Chief Attendants	5	....	1,356 00	
Ordinary Male Attendants	16	....	3,408 00	
Cowman	1	....	216 00	
	45		75,150 00	

V.—PUBLIC INSTITUTIONS, MAINTENANCE.—*Continued.*

SERVICE.		To be voted for 1874.	—
2. Asylum for the Insane, London.—*Continued.*		$ cts.	$ cts.
Females.	No. of officers and employees.		
Chief Attendants	3	540 00	
Ordinary Female Attendants	19	1,740 00	
Night Attendants	2	240 00	
Cooks	3	420 00	
Laundresses	4	432 00	
Housemaids	6	504 00	
Dairymaid	1	96 00	
Seamstress	1	120 00	
Extra Assistance	1	100 00	
	85	80,342 00	
3. Asylum for the Insane, Kingston, 365 Patients.			
Maintenance of Ontario Patients at Rockwood Asylum, for food, clothing, medical attendance, &c., &c., for 365 patients, at $143 per annum each		52,195 00	52,195
4. Provincial Reformatory, Penetanguishene.			
Rations		5,000 00	
Clothing		2,800 00	
Bedding		500 00	
Farm, farm stock and stables		500 00	
Hospital		100 00	
Library and schools		200 00	
Fuel		250 00	
Cleaning, light and laundry		350 00	
Furniture, tools and shop fixtures		500 00	
Repairs, ordinary		500 00	
Incidentals		614 00	
Postage and stationery		250 00	
Salaries and Wages.	No. of officers and employees.		
Warden	1	1,600 00	
Bursar and Deputy Warden	1	850 00	
Surgeon	1	400 00	
Steward	1	500 00	
Chaplains	2	800 00	
Teachers	2	800 00	
Keepers and Trade Instructors	4	1,600 00	
Do Ordinary	4	1,440 00	
Farmer	1	400 00	
Stable-keeper	1	260 00	
Day Guard and Drill Instructor	1	260 00	
Night Guard	1	260 00	
Gate-keeper	1	260 00	
Engineer	1	600 00	
Temporary assistance	.. ....	200 00	
	22	21,794 00	

V.—PUBLIC INSTITUTIONS, MAINTENANCE.—*Continued.*

SERVICE.		To be voted for 1874.	—
		$ cts.	$ cts.
5. Central Prison.			
Medicines, medical comforts and appliances		300 00	
Butchers' meat and fish		6,000 00	
Flour, bread and meal		5,000 00	
Groceries and other provisions		4,500 00	
Bedding, clothing and shoes		4,000 00	
Fuel		3,000 00	
Gas and oil		1,000 00	
Laundry, soap and cleaning		500 00	
Stationery, advertising, printing and postage		500 00	
Library, schools and lectures		500 00	
Furniture and furnishing		500 00	
Stable forage, &c.		500 00	
Repairs, &c.		500 00	
Unenumerated		500 00	
Salaries and Wages.	No. of officers and employees.		
Warden	1	2,000 00	
Bursar	1	1,200 00	
Physician	1	1,000 00	
Chief Warder	1	800 00	
Steward and Storekeeper	1	600 00	
Prison Bailiff	1	800 00	
Day Guards and Shop Supervisors, with board	4	1,440 00	
Do do without board	4	2,000 00	
Night Guards	3	1,500 00	
Special Wall Guards	3	1,200 00	
Gate-keeper	1	300 00	
Engineer	1	700 00	
Baker and Cook	1	600 00	
Messenger	1	250 00	
	24	41,690 00	
6. Institution for the Deaf and Dumb, Belleville.			
Medicine		80 00	
Medical comforts and appliances		40 00	
Butchers' meat, fish and fowl		3,000 00	
Flour		1,600 00	
Butter		1,200 00	
General groceries		2,300 00	
Fruit and vegetables		500 00	
Bedding, clothing and shoes		750 00	
Fuel		2,500 00	
Gas, oil, &c.		1,000 00	
Laundry, soap, and cleaning		500 00	
Furniture and furnishing		500 00	
Farm, feed and fodder		600 00	
Repairs and alterations		500 00	
Advertising, printing, stationery and postage		500 00	
Books, apparatus and appliances		600 00	
Unenumerated		1,000 00	
Salaries and Wages.	No. of officers and employees.		
Principal	1	1,800 00	
Physician	1	500 00	
Book-keeper and Steward	1	800 00	
Matron	1	300 00	
Teachers	9	5,250 00	
Visitors' attendant	1	180 00	
Housekeeper	1	200 00	
Engineer	1	600 00	
		26,800 00	

V.—PUBLIC INSTITUTIONS, MAINTENANCE.—*Continued.*

SERVICE.		To be voted for 1874.	
6. INSTITUTION FOR THE DEAF AND DUMB, BELLEVILLE.—*Continued.*		$ cts.	$ cts.
Salaries and Wages.—Continued.	No. of officers and employees.		
Fireman	1	228 00	
Farmer	1	480 00	
Farm-hand	1	192 00	
Gardener	1	240 00	
Baker and Cook	1	450 00	
Night Watchman	1	240 00	
Carpenter and Assistant	2	650 00	
Shoemaker	1	500 00	
Tailoress	1	250 00	
Messenger	1	84 00	
Cook	1	120 00	
Maids	9	828 00	
Gate-keeper	1	72 00	
Extra assistance	.. ....	100 00	
	38	31,234 00	
7. INSTITUTION FOR THE BLIND, BRANTFORD.			
Medicines, medical comforts and appliances		60 00	
Butchers' meat, fish and fowl		1,500 00	
Flour		800 00	
Butter		500 00	
General groceries		1,100 00	
Fruit and vegetables		250 00	
Bedding, clothing and shoes		600 00	
Fuel		2,500 00	
Gas, oil, &c		800 00	
Laundry, soap and cleaning		250 00	
Furniture and furnishing		400 00	
Farm, feed and fodder		800 00	
Repairs and alterations		400 00	
Advertising, printing, stationery and postage		500 00	
Books, apparatus and appliances		400 00	
Unenumerated		500 00	
Salaries and Wages.	No. of officers and employees.		
Principal	1	1,000 00	
Physician	1	300 00	
Bursar	1	800 00	
Matron	1	300 00	
Teachers	5	3,100 00	
Trade Instructor	1	900 00	
Visitors' Attendant	1	120 00	
Engineer	1	600 00	
Fireman	1	360 00	
Gardener	1	288 00	
Teamster	1	240 00	
Porter	1	216 00	
Cook	1	144 00	
Cook's Assistant	2	96 00	
Laundress	1	96 00	
Laundress' Assistant	1	96 00	
Nurse	1	120 00	
Housemaids	4	336 00	
Temporary assistance	.. ....	100 00	
	25	20,572 00	

V.—PUBLIC INSTITUTIONS, MAINTENANCE.—*Continued.*

SERVICE.	To be voted for 1874.	Voted in 1873.
8. SCHOOL OF AGRICULTURE.	$ cts.	$ cts.
9. SCHOOL OF PRACTICAL SCIENCE.		
Salaries	4,000 00	4,000 00
Gas	300 00	300 00
Fuel	500 00	500 00
Water	200 00	200 00
Ordinary repairs and incidentals	200 00	200 00
Housekeeper	600 00	600 00
	5,800 00	5,800 00

VI.—IMMIGRATION.

To be voted per Statement (A)..... $133,464 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
1	Agencies in Europe, including printing and expenses (*a*)	32,164 00	
2	Agencies in Ontario and Quebec, including provisions for immigrants, their care and charge	20,000 00	
3	Carriage of Immigrants in Canada	10,000 00	
4	Assistance (by bonus) to Immigrants to arrive in 1874.....	45,000 00	
5	Do do do arrivals in 1873, payable in 1874.	25,000 00	
6	Incidentals	1,300 00	
	Total vote required	133,464 00	153,984 33

(*a*) DETAILS.	Months of service.	Salary per month.	Total amount of salary.	Travelling expenses, not to exceed $4 per day.	Rents of offices, printing, advertising, and all incidentals.
		$ cts.	$ cts.	$ cts.	$ cts.
G. T. Denison, on special service	4	.....	2,000 00	to include all expenses	
Sidney Robjohn	12	125 00	1,500 00	1,080 00	5,500 00
C. W. Colter	12	125 00	1,500 00	1,080 00	900 00
John Dyke	8	125 00	1,000 00	480 00	.....
Peter Byrne	12	125 00	1,500 00	1,080 00	900 00
David D. Hay	8	125 00	1,000 00	480 00	.....
C. J. Shiel	8	125 00	1,000 00	700 00	600 00
Jeremiah Murphy	12	125 00	1,500 00	1,080 00	900 00

VI.—IMMIGRATION.—*Continued.*

(*a*) DETAILS.	Months of service.	Salary per month.	Total amount of salary.	Travelling expenses, not to exceed $4 per day.	Rents of offices, printing, advertising, and all incidentals.
		$ cts.	$ cts.	$ cts.	$ cts.
Thomas Pearse	12	.....	500 00	.....	.....
Christopher Ekstromer	12	125 00	1,500 00	700 00	.....
Contingent remuneration to other parties who may be appointed	.....	.....	1,000 00	500 00	.....
Ocean passage, twelve trips for Government agents	.....	.....	.....	1,200 00	.....
Ocean passage for agents of Immigration Aid Societies	.....	.....	.....	984 00	.....
Salaries	.....	.....	14,000 00	9,364 00	8,800 00
Travelling expenses	.....	.....	9,364 00		
Rent, printing, &c.	.....	.....	8,800 00		
			32,164 00		

VII.—AGRICULTURE, ARTS, LITERARY AND SCIENTIFIC INSTITUTIONS.

To be voted per Statement (A).....$90,200 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
	AGRICULTURE.	$ cts.	$ cts.
1	Electoral Division Societies, 73 at $700	51,100 00	51,100 00
2	Do 1 at 550	550 00	550 00
3	Do 7 at 350	2,450 00	2,450 00
4	Fruit Growers' Association	1,000 00	500 00
5	Entomological Society	750 00	500 00
6	Agricultural Association	10,000 00	10,000 00
7	For sundry services in connection with Agriculture and Arts—such as investigations of desease in animals and crops, and of ravages of insects; and for agricultural instruction, dairy products, and other charges not otherwise provided for	2,000 00	2,000 0
	ARTS.	67,850 00	67,100 00
8	Mechanics' Institutes	20,000 00	20,000 00
9	Art Union	500 00	.....
	LITERARY.	20,500 00	20,000 00
10	Aid to Canadian Institute, Toronto	750 00	750 00
11	Do Institut Canadien, Ottawa	300 00	300 00
12	Do Athenæum, Ottawa	300 00	300 00
	SCIENTIFIC.	1,350 00	1,350 00
13	To promote scientific research	500 00	500 00

VIII.—HOSPITALS AND CHARITIES.

To be voted per Statement (A) ..... $43,020 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
	(Upon condition that each Institution shall furnish such information as may be required by the Provincial Secretary.)	$ cts.	$ cts.
	Details.		
1	General Hospital, Toronto	11,200 00	11,200 00
2	House of Industry, do	2,900 00	2,900 00
3	Protestant Orphans' Home and Female Aid Society, Toronto.	640 00	640 00
4	Roman Catholic Orphan Asylum, Toronto	640 00	640 00
5	Lying-in Hospital, do	480 00	480 00
6	Magdalene Asylum, do	480 00	480 00
7	House of Providence, do	1,000 00	1,000 00
8	Girls' Home and Public Nursery, do	320 00	320 00
9	Boys' Home, do	320 00	320 00
10	Eye and Ear Infirmary, Toronto	1,000 00	1,000 00
11	Newsboys Lodgings, do	240 00	240 00
12	General Hospital, Kingston	4,800 00	4,800 00
13	House of Industry and Refuge for Indigent Sick, Kingston	2,200 00	2,200 00
14	Orphans' Home, Kingston	640 00	640 00
15	Hotel Dieu Hospital, Kingston	1,000 00	1,000 00
16	General Hospital, London	2,400 00	2,400 00
17	Roman Catholic Orphan Asylum, London	640 00	640 00
18	City Hospital, Hamilton	4,800 00	4,800 00
19	Roman Catholic Orphan Asylum, Hamilton	640 00	640 00
20	Orphan Asylum and Ladies Benevolent Society, Hamilton	640 00	640 00
21	House of Refuge, Hamilton	720 00	720 00
22	Protestant Hospital, Ottawa	1,200 00	1,200 00
23	Roman Catholic Hospital, Ottawa	1,200 00	1,200 00
24	St. Patrick's Orphan Asylum, Ottawa	480 00	480 00
25	Protestant Orphan Asylum, do	480 00	480 00
26	St. Joseph Orphan, do	480 00	480 00
27	Magdalene Asylum, do	480 00	480 00
28	General Hospital, St. Catharines	1,000 00	1,000 00
		43,020 00	43,020 00

IX.—MISCELLANEOUS EXPENDITURE.

To be voted per Statement (A)..... $17,800 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
1	To cover expenses of collection of revenue for law stamps and licenses	2,500 00	
2	To cover expenses in connection with municipalities and other funds	500 00	
3	To provide for expenses attending the settlement of the Municipal Loan Fund debt and surplus schemes	4,000 00	
4	To provide for expenses *re* Ontario and Quebec settlement	4,000 00	
5	To provide for expenses *re* Northern and Western boundaries	4,000 00	
6	Inspector of railways	500 00	
7	Ontario Rifle Association	600 00	
8	Orillia Asylum, caretaker	200 00	
9	Insurance on public buildings	1,500 00	
		17,800 00	28,300 00

X.—UNFORESEEN AND UNPROVIDED.

To be voted per Statement (A)..... .... $50,000 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
	To meet unforeseen and unprovided expenses	50,000 00	50,000 00

XI.—PUBLIC BUILDINGS.

To be voted per Statement (A).....$231,733 10.

No. of Vote.	A.	Details.	To be voted for 1874.	Voted in 1873.
			$ cts.	$ cts.
1	Asylum for the Insane, Toronto	(*a*)	3,200 00	
2	Do London	(*b*)	31,181 65	
3	Inebriate Asylum, Hamilton	(*c*)	68,886 87	
4	Provincial Reformatory, Penetanguishene	(*d*)	8,870 00	
5	Central Prison	(*e*)	59,492 00	
6	Deaf and Dumb Institute	(*f*)	7,618 75	
7	Blind Institute.....	(*g*)	4,934 81	
8	School of Agriculture.....	(*h*)	14,249 02	
9	Do Practical Science	(*i*)	200 00	
10	Normal School and Education Office	(*j*)	12,000 00	
11	Normal School, Ottawa	(*k*)	94,768 60	
12	Osgoode Hall	(*l*)	1,500 00	
13	Government House.....	(*m*)	2,000 00	
14	Parliament and Departmental Buildings	(*n*)	5,000 00	
15	Court House and Gaol, Sault Ste. Marie	(*o*)	1,500 00	
16	Lock-up do Thunder Bay.....	(*p*)	6,000 00	
17	Do do Nipissing District.....	(*q*)	2,000 00	
18	Registry Office, Parry Sound do	(*r*)	100 00	
19	Do and Lock-up—New District	(*s*)	3,000 00	
			326,501 70	
	SUMMARY.			
	1. Re-votes, included in above..	.....	197,788 06	
	2. Expenditure on Capital Account (new)	.....	124,913 64	
	3. Do for repairs and maintenance.....	.....	3,800 00	
			326,501 70	667,411 32

XI.—PUBLIC BUILDINGS.—*Continued.*

SERVICE.	To be voted for 1874.	—
Details.	$ cts.	$ cts.
(*a*) Asylum for Insane, Toronto.		
For washing machines, laundry appliances, &c	2,000 00	
" tramway to laundry and repairs	500 00	
" improved water supply	200 00	
" alterations in sewage pipes	500 00	
		3,200 00
(*b*) Asylum for Insane, London.		
Re-vote, unexpended balance	11,797 25	
To complete cottages, &c	13,784 40	
For farm, drainage, &c	1,000 00	
" 800 feet rubber hose, fire protection	600 00	
" cottages for insane, planting, road making, &c	1,000 00	
" furniture and furnishings	3,000 00	
		31,181 65
(*c*) Inebriate Asylum, Hamilton.		
Re-vote, unexpended balance	68,886 87	
		68,886 87
(*d*) Provincial Reformatory, Penetanguishene.		
For completion of buildings, re-votes $579.42	600 00	
" steam heating including boiler and boiler house	3,000 00	
" play-shed and gymnasium	600 00	
" privies and drains	1,000 00	
" eaves to buildings, tanks and reservoirs	1,480 00	
" bath room and fittings &c	150 00	
" painting, stock and brushes, &c	200 00	
" repairs, walls and fences	1,000 00	
To payment for improvements for house acquired by the Reformatory	840 00	
		8,870 00
(*e*) Central Prison, Toronto.		
Re-vote, unexpended balance	2,992 00	
Additional on machinery	7,000 00	
Do heating wings	3,000 00	
Do lighting workshops	5,000 00	
Do foundations for machinery	2,000 00	
Do area walls, workshop	2,000 00	
Do filling round building	5,000 00	
Do gas main pipe from street	1,000 00	
Do repairing damage after storm	7,000 00	
Do brick work and four cells	5,000 00	
Do gratings fourteen windows	1,000 00	
Do foundry and cupolas	2,000 00	
Roads and fences to be completed	8,000 00	
Superintendence, &c	2,000 00	
For washing machines, laundry appliances	1,000 00	
" levelling grounds, planting, &c	2,000 00	
" furniture and furnishings for 84 additional cells	3,500 00	
		59,492 00
(*f*) Deaf and Dumb Institute, Belleville.		
Re-vote, unexpended balance	1,059 51	
To complete dining hall, plumbing, &c	2,500 00	
For additional bedroom, kitchen and cellar for steward's house	600 00	
" sundry work, and closets for steward's house	459 24	
" gymnasium and play-shed	2,500 00	
" planting, roadmaking, &c	500 00	
		7,618 75

XI.—PUBLIC BUILDINGS.—*Continued.*

SERVICE.	—	To be voted for 1874.
	$ cts.	$ cts.
(*g*) Blind Institute, Brantford.		
Re-vote, unexpended balance	1,434 81	
Gas and water supply, Bursar's Cottage	400 00	
Soldering roofs and eaves of building	600 00	
For maps, apparatus and other school appliances	500 00	
" washing machines and laundry appliances	500 00	
" ovens, ash pits, and repairs to flue	300 00	
" preparing dormitory for trades pupils, and furniture, and furnishing for same	1,000 00	
" planting, road making, &c	200 00	
		4,934 81
(*h*) School of Agriculture.		
Re-vote, unexpended balance		14,249 02
(*i*) School of Practical Science.		
Repairs		200 00
(*j*) Normal School and Education Office.		
Central boiler house and boilers	8,000 00	
Removing latrines and repairing drains	2,000 00	
Repairs	2,000 00	
		12,000 00
(*k*) Normal School, Ottawa.		
Re-vote, unexpended balance		94,768 60
(*l*) Osgoode Hall.		
Repairs of building		1,500 00
(*m*) Government House.		
To complete forcing-house	1,500 00	
Furniture, wardrobes, &c	500 00	
		2,000 00
(*n*) Parliament and Departmental Buildings.		
To complete fence, planting, &c		5,000 00
(*o*) Algoma District.		
Fence, water pipe and repairs to Court House and Gaol, Sault Ste. Marie		1,500 00
(*p*) Thunder Bay District.		
Gaol and Lock-up	4,000 00	
Registry Office—Fence painting, &c	2,000 00	
		6,000 00
(*q*) Nipissing District.		
Re-vote in part for two Lock-ups		2,000 00
(*r*) Parry Sound District.		
Registry Office—Repairs, painting, &c		100 00
(*s*) New District, North Victoria and Peterborough.		
For Registry Office, Lock-up and furniture		3,000 00

XII.—PUBLIC WORKS.

To be voted per Statement (A).....$176,481 82.

No. of Vote.	A.	To be voted for 1874. Re-vote.	New vote.
	MISCELLANEOUS.	$ cts.	$ cts.
1	Washago channel to wharf	1,000 00	
2	Sydenham river improvements	644 74	
3	Muskoka Falls, rock excavation, dam and sluices	4,565 36	
4	Lock between Mary's and Fairy lakes	18,980 69	
5	Ryerson road works	511 34	
6	Settlers' Homestead Fund	8,279 73	
7	Trent river bridge	2,000 00	
8	Washago and Gravenhurst road		1,200 00
9	Balsam river works, land purchase and dredging		1,200 00
10	Kaministiquia river, to complete dredging bar	543 94	10,856 02
11	Otonabee river, cribs and booms below Young's lock		2,000 00
12	Dams and slides, Gull and Burnt river waters		17,500 00
13	Swing and fixed bridges, and approaches at Port Carling		3,000 00
14	Timber slide, High Falls, Muskoka river		4,000 00
15	Wye river, piers and dredging of bar		8,000 00
16	Scugog river, dredging, &c.		4,000 00
17	Surveys, inspections, arbitrations and charges not otherwise provided for		5,000 00
18	Maintenance of locks, dams and swing bridges		2,000 00
19	Lock masters' and bridge tenders' salaries		1,200 00
		36,525 80	59,956 02
			36,525 80
	Re-vote		96,481 82
	DRAINAGE.		
	Estimated amount required for the year 1874, in respect of drainage works undertaken by Government at request of municipalities, under the Act 33 Vic., cap. 2, and 36 Vic., cap. 38		(a)80,000 00
	(a) DETAILS.		176,481 82
	Contracts let in Sombra and W. Nissouri to be finished in December, 1874, require the following amounts—		
	Sombra drainage works	39,000 00	
	W. Nissouri do	8,000 00	
		47,000 00	
	Less paid in 1873	4,446 00	
		42,554 00	
	Unfinished works in Raleigh and Tilbury	18,000 00	
		60,554 00	
	Do Moore	4,500 00	
		65,054 00	
	NOTE.—In addition to these, new works are asked for in Camden and Portland, South Plantagenet and Delaware.		
	SUMMARY.		
	1. Re-votes, included in above		36,525 80
	2. Expenditure on capital account		56,786 02
	3. Do for repairs and maintenance		3,200 00
	4. Drainage, repayable to Province		80,000 00
			176,481 82

XIII.—COLONIZATION ROADS.

To be voted per Statement (A)..... .....$100,000 00.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
1	Construction and repairs	100,000 00	146,300 00

SERVICE.	To be voted for 1874.	——
Details.	$ cts.	$ cts.
I.—North Division.		
1 Black Bay Road— To continue improvements and construct Current and McKenzie rivers bridges, on the above road	6,000 00	
Fort William Road— To complete and construct bridges across Prince Arthurs' and McIntyre creeks, on above road	5,000 00	
3 Pigeon River Road— To complete and construct Kaministiquia river bridge, on above road	5,000 00	
4 Thessalon River Bridge— On Great Northern road, to construct	1,500 00	
5 Base Line Road— Between Townships of Prince and Park ; and Korah and Awenge, to complete winter road	1,000 00	18,500 00
II.—West Division.		
1 Rosseau and Nipissing Road— To commence permanent improvements—stone and gravel	8,000 00	
2 Monteith and Perry Road— To continue from McMurrich through Perry.....	2,000 00	
3 Northern Road— To commence permanent improvements	5,000 00	
4 Buckhorn Road— To complete through Glamorgan to Dysart.....	3,000 00	
5 Cameron Road— To complete to Village of Minden and improve Victoria road...	3,000 00	
6 Christie Road— To open from Parry Sound to Junction road No. 2, in Christie	2,000 00	
7 Parry Sound— To commence permanent improvements between Rosseau Junction and Parry Sound village	8,000 00	
8 Muskoka Road— To repair between Bracebridge and Parry Sound road junction	1,000 00	32,000 00

XIII.—COLONIZATION ROADS.—*Continued.*

SERVICE.	To be voted for 1874.	——
	$ cts.	$ cts.
III.—East Division.		
1 Mississippi Road— To complete through rest of Ashby and Mayo	2,000 00	
2 Hyde Chute and Sanson's Road— To complete improvements on	2,000 00	
3 Pembroke and Mattawa Road— To complete permanent improvements, on stone and gravel	10,000 00	
4 Addington Road— To repair from Clair river bridge	1,000 00	
5 Frontenac Road— To repair from Mississippi river	1,000 00	
6 Opeongo Road— For general repairs S. of Brudenel	5,000 00	
7 Clair River Bridge— On Addington road, in Sheffield	2,500 00	23,500 00
IV.—General Purposes.		
For short new roads	10,000 00	
" repairs of like nature	10,000 00	
" inspection of works	4,000 00	
" location of roads	2,000 00	26,000 00
Recapitulation.		
North Division	18,500 00	
West do	32,000 00	
East do	23,500 00	
General purposes	26,000 00	
Total estimate		100,000 0

XIV.—CHARGES ON CROWN LANDS.

No. of Vote.	A.	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
1	Expenditure on account of Crown Lands	147,467 00	202,100 00

SERVICE.	To be voted for 1874.	—
Details.	$ cts.	$ cts.
Board of Surveyors	400 00	
Agents' salaries, commissions and disbursements	25,000 00	
Forest ranging and inspection of timber lands	18,000 00	
Inspectors valuing lands and to cover balance of accounts for services performed in 1873	3,500 00	
Refunds	30,000 00	
Surveys, as follows:—		
Township of Papineau	5,000 00	
Do Perry	4,000 00	
Do Lount	4,000 00	
Do South of Lake Nipissing	4,000 00	
Special surveys, new townships, &c.	5,000 00	
Exploring line from Little Pic river to Neepigon river, as base for mining locations	6,000 00	
Exploring line from Chaffey to mouth of Mattawan river (to complete)	1,200 00	
Township of McGregor (to complete)	31 00	
Town plot of Clarkville do	1,224 00	
Survey of islands near the mouth of Kaministiquia river, Fort William	1,000 00	
Lots on each side of the Dawson Road, from the Township of Oliver to Lake Shebandowan	4,000 00	
Township of Plummer, to complete survey (re-vote)	500 00	
Do Oliver do do	1,150 00	
Do Nipissing do do	1,500 00	
Do Pic and Sibley do (re-vote in part)	5,000 00	
Re-survey of Sunnidale (re-vote)	1,500 00	
		122,005 00
MISCELLANEOUS.—*Special.*		
Defining boundary between Provinces of Ontario and Quebec		
Defining boundary west and north between Province of Ontario and Dominion	10,000 00	
Examination and report of the Hudson Bay improvements at their various stations on Lake Huron and Superior, with a view to the adjustment of their claims (re-vote)	3,000 00	
Survey of limits of north shore of Lake Huron, chargeable against holders (re-vote)	6,000 00	
Two per cent. of timber dues, payable to municipalties, for timber cut on road allowance (re-vote)	4,000 00	
Compensation claims:—		
To compensate Henton, Cromwell and Grant, for deficiency in certain lots in Colchester	2,462 00	
		25,462 00
Total		147,467 00

XV.—REFUND ACCOUNT.

To be voted per Statement (A).....$220,016 90.

No. of Vote.	A	To be voted for 1874.	Voted in 1873.
		$ cts.	$ cts.
1	Education	750 00	
2	Crown Lands	20,000 00	
3	Immigration	25,000 00	
4	Municipalities Fund	120,151 42	
5	Land Improvement Fund	54,115 48	
		220,016 90	

No. of Vote.	SERVICE.		To be voted for 1874.	—
			$ cts.	$ cts.
	EDUCATION.			
1	Account of contributions to superannuated Fund, withdrawn..		....	750 00
	CROWN LANDS.			
2	For payments made to the credit of the Department on account of uncompleted purchases, and afterwards returned to proposed purchasers on purchases not being carried out		....	20,000 00
	IMMIGRATION.			
3	To recoup out of Dominion allowance, amount paid to this Province and claimed by that Government for forwarding Immigrants to Ontario in 1873		....	25,000 00
	MUNICIPALITIES FUND.			
4	To pay over to Municipalities the amount collected in 1873.....		150,126 78	
	Less—20 per cent Commission, &c.		30,025 36	
	Vide Stat. Can. 18 V., c. 2 & 19 V., c. 16.		....	120,101 42
	LAND IMPROVEMENT FUND.			
	Moneys collected from sale of Crown Lands, subject to the Land Improvement Fund, for the year ending 30th June, 1872.....	61,258 22		
	Less—4-5, leaving 1-5 to the Land Improvement Fund	49,006 57		
	Vide Stat Can.16 V., c. 159, and Con. Stat. Can c. 26.	12,251 65		
	Less—6 per cent. for cost of collection and management	735 09		
			11 516 56	
	Moneys collected from the sale of Common School Lands, subject to the Land Improvement Fund, for the year ending 30th June, 1872.....	44,580 04		
	Less—6 per cent. for collection and management	2,674 80		
		41,905 24		

XV.—REFUND ACCOUNT.—*Continued.*

No. of Vote.	SERVICE.		To be voted for 1874.	
			$ cts.	cts.
	To be distributed as follows, viz:			
	¼ to the Land Improvement Fund		10,476 31	
	¾ to the Dominion Government, to be added to the Common School Fund			31,428 93
	Moneys collected from the sale of Grammar School Lands, subject to the Land Improvement Fund, from the 30th June, 1871, to 30th June, 1872	2,951 84		
	Less—6 per cent. for collection and management	177 11		
		2,774 73		
	Less—¾, leaving ¼ to the Land Improvement Fund	2,081 05	693 68	
				22,686 55

XVI.—TO COMPLETE SERVICES AND TO COVER UNPAID ACCOUNTS FOR 1873.

To be voted per Statement (A and B) ..... $59,982 17.

No. of Vote.	A.	To be voted for 1874.	
		$ cts.	$ cts.
1	SERVICES OF 1873.		
	Paid out of vote for unforeseen and unprovided as per Statement No. 32, in the Public Accounts of 1873		
	Civil Government.		
	Treasury Department—Contingencies and repairs	1,305 44	
	Secretary and Registrar's Office	915 46	
	Public Works Department	84 40	
	Inspector of Prisons	313 03	
	Crown Lands Department—Salaries	283 34	
	Do Contingencies	6,835 92	
	Official Gazette	603 34	
	Queen's Printer—Contingencies	137 77	
			10,478 70
	Legislation.		
	Sessional Writers—Messengers and pages	1,375 95	
	Printing, &c., Statutes	4,707 37	
	Indemnity to members	1,546 06	
	Contingencies and repairs	4,867 61	
			12,49 99

XVI.—TO COMPLETE SERVICES AND TO COVER UNPAID ACCOUNTS FOR 1873.—*Continued.*

No. of Vote	A.	To be voted for 1874.	—
	SERVICES OF 1873.		
	Administration of Justice.	$ cts.	$ cts.
	Court of Chancery—Salaries	83 35	
	Law Reform Commission	114 58	
	Miscellaneous Justice	1,955 49	
			2,153 42
	Public Buildings and Works.		
	School of Industrial Science	1,103 93	
	Normal Model Schools	846 63	
	Court House and Gaol, Sault Ste. Marie	13 96	
	Government House	1,517 57	
	Departmental Buildings	5,204 68	
	Otonabee River Works	17 25	
			8,704 02
	Asylums and Public Institutions Maintenance.		
	Toronto Lunatic Asylum	101 95	
	Central Prison	598 33	
	Agricultural College	1,707 29	
			2,407 57
	Education.		
	Office Contingencies	528 62	
	Refunds	442 81	
			971 43
	Immigration		5,194 22
	Crown Lands Expenditure.		
	Forest ranging and inspection of timber lands	681 77	
	Inspectors valuing lands	1,699 99	
			2,381 76
	Miscellaneous.		
	Unprovided items		4,743 03
			49,531 14

XVII.—TO COVER EXPENDITURE UNDER UNFORESEEN AND UNPROVIDED AND UNPAID ACCOUNTS OF 1873.

To be voted per Statement (B) .... $.

No. of Vote.	B.	$ cts.	$ cts.
	The following unpaid accounts to complete the service of 1873 :		
	DETAILS.		
1	*Civil Government.*		
	East Wing, repairs	509 64	
	Crown Lands Department, repairs	198 43	
			708 07
2	*Legislation.*		
	Repairs, &c.....	.....	690 02
3	*Public Works and Buildings.*		
	Parliament Buildings, capital account	2,733 25	
	Registry Office, Parry Sound do	62 12	
	Government House do	943 55	
	Deaf and Dumb Institute do	300 00	
	Agricultural College, Guelph do	809 15	
	Lunatic Asylum, London do	762 40	
	Central Prison do	3,442 50	
			9,052 94
			10,451 03

FOURTH ANNUAL REPORT

OF THE

REGISTRAR GENERAL

OF THE

PROVINCE OF ONTARIO.

REGISTRAR-GENERAL'S OFFICE,
TORONTO, December 24, 1873.

To His Excellency the Honourable JOHN CRAWFORD, *Lieutenant-Governor of the Province of Ontario,*

I have the honour to present, in accordance with the requirements of the Statute in that behalf, a Report of the Births, Marriages and Deaths registered in this Province during the year ending December 31st, 1872.

The result of this year's work shews an increase of 611 registrations over the number of the preceding year.

It was hoped that the efforts put forth by this Department during the previous year would have shewn complete results, and that an increase of a more satisfactory nature would now have been evidenced.

The returns shew the registration of 23,367 births, against 24,830 for 1871; of 10,450 marriages against 9,939 for 1871; of 10,745 deaths against 9,182 for 1871.

The following Table is a Summary of Births registered during the Twelve Months ending 31st December, 1872.

COUNTIES.	Male.	Female.	No. where both Name and Sex are omitted.	Total.
Algoma	38	31	0	69
Brant	280	255	3	538
Bruce	271	212	0	483
Carleton	260	242	0	502
Elgin	155	152	0	307
Essex	313	319	1	633
Frontenac	151	128	0	279
Grey	394	371	0	765
Haldimand	246	237	0	483
Halton	198	199	0	397
Hastings	160	168	1	329
Huron	592	597	3	1192
Kent	308	291	1	600
Lambton	286	262	0	548
Lanark	135	95	0	230
Leeds and Grenville	393	347	0	740
Lennox and Addington	181	176	0	357
Lincoln	187	151	0	338
Middlesex	546	434	0	980
Muskoka	93	91	0	184
Norfolk	380	363	0	743
Northumberand and Durham	337	333	2	672
Ontario	447	409	1	857
Oxford	501	481	3	985
Parry Sound	21	16	0	37
Peel	262	271	0	533
Perth	419	360	2	781
Peterborough	162	146	0	308
Prescott and Russell	168	147	0	315
Prince Edward	98	81	0	179
Renfrew	271	260	3	534
Simcoe	386	368	0	754
Stormont, Dundas and Glengarry	241	209	2	452
Thunder Bay	7	3	0	10
Victoria	201	140	0	341
Waterloo	483	439	0	922
Welland	226	218	0	444
Wellington	686	628	0	1314
Wentworth	527	523	0	1050
York	1176	1006	0	2182
Totals	12186	11159	22	23367

Here we have a decrease in the number of births registered of 1,463.

Of 23,367 children born, 12,186 were males, 11,159 were females, and 22 sex not given.

235 births are returned as illegitimate, or nearly one per cent. of all those registered. The birth of 76 pairs of twins is reported, being an average of one pair of twins for every 307 births.

79 births out of the whole number registered are returned as still-born, being one in every 295 births.

The following table will show the increase or decrease (as the case may be) in the different counties, between the number of births registered in the years ended 31st December, 1871, and 31st December, 1872.

COUNTIES.	Number registered in 1871.	Number registered in 1872.	Increase.	Decrease.
Algoma	52	69	17	
Brant	477	538	61	
Bruce	597	483		114
Carleton	537	502		35
Elgin	376	307		69
Essex	580	633	53	
Frontenac	381	279		102
Grey	778	765		13
Haldimand	439	483	44	
Halton	475	397		78
Hastings	338	329		9
Huron	1265	1192		73
Kent	569	600	31	
Lambton	599	548		51
Lanark	297	230		67
Leeds and Grenville	795	740		55
Lennox and Addington	411	357		54
Lincoln	346	338		8
Middlesex	1382	980		402
Muskoka	212	184		28
Norfolk	650	743	93	
Northumberland and Durham	857	672		185
Ontario	717	857	140	
Oxford	854	985	131	
Parry Sound	49	37		12
Peel	614	533		81
Perth	894	781		113
Peterborough	383	308		75
Prescott and Russell	301	315	14	
Prince Edward	230	179		51
Renfrew	624	534		90
Simcoe	971	754		217
Stormont, Dundas and Glengarry	417	452	35	
Thunder Bay		10	10	
Victoria	431	341		90
Waterloo	970	922		48
Welland	411	444	33	
Wellington	1282	1314	32	
Wentworth	1113	1050		63
York	2156	2182	26	
Totals	24830	23367	720	2183
Total Increase				720
Total Decrease				1463

Middlesex thus shows the large decrease of 402 births, nearly one-third less than the number returned the preceding year. Frontenac is also about one-third less. Northumberland and Durham more than one-fifth. Simcoe over a fourth less.

The neglect above evidenced must arise principally through a want of knowledge of the great utility and advantages of registration, and it appears strange that any, especially our oldest, most wealthy and most populous counties should neglect that which is evidently of so much importance to the present and future generations.

A very great improvement is visible this year in the Schedules. In the majority of cases all the information required by the Act is given. There are a few instances, however, where Division Registrars have registered Births without giving the Christian name of the child. This should most certainly be ascertained before sending the Schedules to the District Registrars, one of the great objects of registration being lost if it is imperfect in this important particular.

MARRIAGES.

The following Table is a Summary of Marriages registered during the twelve months ended 31st December, 1872.

COUNTIES.	Where Bride and Bridegroom were of the same Religious Denomination.								Where Bride and Bridegroom were of different Denomination.	Total.	No Denomination.	Grand Total.
	Episcopalian.	Presbyterian.	Methodist.	Roman Catholic.	Baptist.	Lutheran.	Congregational.	Other Denomination.				
Algoma	2	0	6	12	0	0	0	0	6	26	0	26
Brant	35	23	36	13	14	2	3	3	58	187	0	187
Bruce	7	56	35	1	5	9	0	3	57	173	8	181
Carleton	48	61	27	61	4	4	2	1	87	295	1	296
Elgin	23	26	85	5	30	1	2	4	79	255	5	260
Essex	18	5	46	120	4	0	0	1	50	244	7	251
Frontenac	40	17	86	69	0	1	0	0	69	282	3	285
Grey	27	37	63	13	2	23	0	6	84	255	2	257
Haldimand	16	15	66	5	11	4	0	0	50	167	0	167
Halton	25	36	42	6	4	0	2	2	32	149	2	151
Hastings	26	28	175	28	1	0	0	2	81	341	8	349
Huron	50	77	77	21	4	9	0	12	87	337	0	337
Kent	24	33	99	30	19	0	0	3	69	277	2	279
Lambton	25	30	47	24	7	0	1	0	70	204	1	205
Lanark	34	58	45	1	3	0	1	1	68	211	13	224
Leeds and Grenville	68	37	129	25	5	0	0	0	92	356	3	359
Lennox and Addington	13	6	121	24	0	0	0	0	36	200	1	201
Lincoln	20	23	39	7	5	7	0	3	46	150	13	163
Middlesex	87	93	161	40	21	2	6	3	193	606	5	611
Muskoka	8	3	3	1	0	1	0	0	9	25	0	25
Norfolk	8	14	63	4	41	2	0	1	62	195	7	202
Northumberland and Durham	41	41	136	3	2	0	4	28	90	345	19	364
Ontario	35	40	71	6	7	2	1	20	101	283	5	288
Oxford	26	59	104	9	27	4	1	9	109	348	14	362
Parry Sound	2	1	10	0	0	0	0	0	10	23	0	23
Peel	22	15	59	2	5	0	0	1	38	142	4	146
Perth	20	57	65	12	3	44	2	7	59	269	11	280
Peterborough	28	17	40	3	4	2	0	4	52	150	8	158
Prescott and Russell	4	13	11	111	1	0	0	1	21	162	0	162
Prince Edward	4	3	84	1	0	0	0	3	27	122	1	123
Renfrew	22	31	25	78	0	10	0	1	45	212	0	212
Simcoe	54	84	90	43	1	1	0	1	125	399	6	405
Stormont, Dundas and Glengarry	29	69	49	93	7	15	0	1	62	325	2	327
Thunder Bay	1	1	0	2	0	0	0	0	0	4	0	4
Victoria	19	15	40	20	2	0	0	13	57	166	6	172
Waterloo	10	37	25	53	1	155	1	4	52	338	14	352
Welland	22	10	46	6	4	15	1	6	35	145	2	147
Wellington	53	125	115	16	5	5	1	9	156	485	4	489
Wentworth	66	47	151	61	13	4	2	1	70	415	1	416
York	232	96	249	93	17	4	8	28	258	985	19	1004
Totals	1294	1439	2821	1122	279	326	38	182	2752	10253	197	10450

The number of marriages registered in 1872 was 10,450, or nearly five-sixths of the estimated number, according to the Census of 1871.

Of these 8,699 were married by license, 1,554 by banns. In 197 marriages it is not stated by the officiating clergymen in their returns whether the parties were married by license or banns.

The number of marriages registered in 1870 was 8,668. In 1871, 9,939, and in 1872, 10,450.

There was an increase, therefore, in 1871 of 1271, and 1872 of 511 registrations.

In 1871 there were 317 marriages returned in which the denominations were not given. In 1872 there are only 197 similar cases—an evidence of the increasing care taken by the clergy in this matter.

In the year under review, the ratio of registered marriages to the population was 1 to 155, while in 1871 it was 1 to 162.

In 1871 the ratio in Nova Scotia was 1 to 126 of the population; in England 1 to 123; in France 1 to 127, and in Massachusetts 1 to 98.

Of marriages registered in Ontario during the years 1870, 1871 and 1872, according to religious denominations there were :—

Year.	Episcopal.	Presbyterian.	Methodist.	Roman Cath.	Baptist.	Lutheran.	Congregational.	Other Denominations.
1870	1041	1266	2218	710	244	0	23	337
1871	1214	1302	2577	906	262	168	35	284
1872	1294	1439	2821	1122	279	326	38	182

A comparison is now submitted specifying the relation the estimated and actual returns of marriages for the years 1870, 1871 and 1872 bear to one another.

In 1870, the marriage returns amounted to two-thirds of the estimated number.

In 1871 the marriage returns increased to nearly four-fifths of the estimated number.

While in 1872 the marriage returns have increased to nearly five-sixths of the estimated number.

The following Table will shew the Increase or Decrease (as the case may be) in the different counties between the number of Marriages registered in the Years ended 31st Dec., 1871, and 31st Dec., 1872.

COUNTIES.	No. Registered in 1871.	No. Registered in 1872.	Increase.	Decrease.
Algoma	13	26	13	
Brant	253	187		66
Bruce	210	181		29
Carleton	184	296	112	
Elgin	241	260	19	
Essex	220	251	31	
Frontenac	254	285	31	
Grey	246	257	11	
Haldimand	196	167		29
Halton	142	151	9	
Hastings	288	349	61	
Huron	400	337		63
Kent	292	279		13
Lambton	189	205	16	
Lanark	142	224	82	
Leeds and Grenville	299	359	60	
Lennox and Addington	169	201	32	
Lincoln	158	163	5	
Middlesex	628	611		17
Muskoka	31	25		6
Norfolk	232	202		30
Northumberland and Durham	412	364		48
Ontario	262	288	26	
Oxford	302	362	60	
Parry Sound	13	23	10	
Peel	185	146		39
Perth	284	280		4
Peterborough	151	158	7	
Prescott and Russell	113	162	49	
Prince Edward	140	123		17
Renfrew	154	212	58	
Simcoe	408	405		3
Stormont, Dundas and Glengarry	303	327	24	
Thunder Bay		4	4	
Victoria	171	172	1	
Waterloo	287	352	65	
Welland	135	147	12	
Wellington	459	489	30	
Wentworth	391	416	25	
York	982	1004	22	
Totals	9939	10,450	875	364
Total Decrease			364	
Total Increase			511	

DEATHS.

The following Table is an analysis of deaths registered, according to age and sex, during the twelve months ended 31st December, 1872.

COUNTIES.	1	2	3	4	5	6	7	8	9	10	11	Sex.			
	Under 3.	3 and under 10.	10 and under 21.	21 and under 40.	40 and under 50.	50 and under 60.	60 and under 70.	70 and under 80.	80 and under 90.	90 and upwards.	Ages not given.	Male.	Female.	Sex not given.	Total.
Algoma	11	8	7	4	1	2	1	2	1	....	....	22	15	....	37
Brant	78	12	18	43	18	16	17	12	8	2	3	124	102	1	227
Bruce	40	10	15	24	14	12	14	6	4	2	3	81	62	1	144
Carleton	43	19	20	58	13	10	16	12	18	1	3	122	91	....	213
Elgin	39	18	8	26	10	17	10	17	11	1	....	89	68	....	157
Essex	112	45	33	63	21	11	19	18	9	....	5	163	173	....	336
Frontenac	43	5	11	74	23	18	36	15	12	4	3	142	102	....	244
Grey	51	20	16	36	21	10	11	24	8	6	....	121	82	....	203
Haldimand	57	15	12	23	16	10	20	18	6	1	2	105	75	....	180
Halton	63	27	13	32	12	13	8	19	7	3	2	111	88	....	199
Hastings	61	5	21	48	25	13	13	15	12	1	34	142	106	....	248
Huron	186	70	34	84	22	23	23	30	13	5	11	255	245	1	501
Kent	71	39	20	42	30	20	11	10	11	2	8	129	135	....	264
Lambton	86	26	28	56	20	11	17	18	12	5	.....	134	145	....	279
Lanark	30	12	9	25	15	7	8	8	15	4	1	74	60	....	134
Leeds and Grenville	89	39	30	89	30	23	27	44	22	5	....	220	178	....	398
Lennox and Addington	44	6	11	28	10	9	21	24	15	1	3	90	81	1	172
Lincoln	35	10	13	35	10	11	25	8	8	....	2	79	78	....	157
Middlesex	111	38	37	100	75	28	26	42	18	3	3	239	242	....	481
Muskoka	15	4	3	7	5	2	6	....	1	....	....	27	16	....	43
Norfolk	87	33	19	56	22	16	26	28	14	....	2	154	149	....	303
Northumberland & Durham	99	33	37	80	34	29	24	36	26	6	4	205	202	1	408
Ontario	89	28	22	57	11	18	25	26	16	4	3	171	128	....	299
Oxford	120	51	40	72	28	28	40	28	17	6	6	209	227	....	436
Parry Sound	6	1	1	2	1	....	....	....	1	....	....	7	5	....	12
Peel	64	30	21	34	18	14	22	18	14	2	1	111	127	....	238
Perth	79	40	29	39	16	18	11	19	11	5	....	146	121	....	267
Peterborough	30	8	12	25	5	2	14	6	8	....	2	57	55	....	112
Prescott and Russell	57	14	14	20	8	4	9	4	11	1	....	62	80	....	142
Prince Edward	28	14	7	27	7	7	9	15	3	2	1	64	56	....	120
Renfrew	58	19	16	40	11	15	14	14	2	3	1	107	86	....	193
Simcoe	136	43	30	58	23	20	29	18	14	3	12	188	195	3	386
Stormont, Dundas & Glengarry	38	23	16	47	21	15	19	21	19	5	4	113	115	....	228
Thunder Bay	6	1	6	4	2	2	1	1	1	....	1	16	9	....	25
Victoria	52	15	15	31	11	8	4	7	3	1	1	77	71	....	148
Waterloo	150	43	43	60	18	22	31	33	19	3	10	222	210	....	432
Welland	74	33	28	42	22	26	28	27	12	2	2	140	156	....	296
Wellington	202	50	45	87	40	28	34	37	26	7	4	285	275	....	560
Wentworth	169	49	24	115	46	29	44	33	23	3	6	296	245	....	541
York	253	81	80	195	80	73	80	76	45	9	10	534	447	1	982
	3062	1037	864	1988	815	640	793	789	496	108	153	5633	5103	9	10745

In the foregoing analysis there is one point which at once attracts attention, and that is the very great mortality among children under three years of age; nearly 29 per cent. of the whole number of deaths returned, being under that age.

	English.	Irish.	Scotch.	German.	French.	Swiss.	West Indies.	United States of America.	Canada.	Native Place not known.	Total.
Of the Deaths in Column 7.....	184	223	141	30	9	1	2	42	143	18	793
" " 8.....	171	205	150	18	3	.....	1	82	146	13	789
" " 9.....	78	147	116	17	1	.....	1	65	63	8	496
" " 10.....	13	38	33	4	1	.....	.....	9	10	.....	108

Of those persons whose deaths are enumerated in column 10, the following have been returned as having attained the age of 100 years and upwards:—

	Names.	When Died.	Age.	Residence at time of Death.	Where Born.	Assigned Cause.
1	Nancy McIntosh....	28th Jan., 1872..	100	Yarmouth, County of Elgin.....	Scotland	Broken leg and natural decay.
2	Samuel McAuley....	24th Sept., "	100	Melancthon, County of Grey.....	Ireland	Senile decay.
3	William Fleck.	1st Jan., "	100	Moore, County of Lambton.....	N. Shields England.....	Old age.
4	Anne Dewitt	8th April, "	101	Stamford, County of Welland.....	New York State, U. States	Congestion of lungs.
5	James S. Hinton	9th Oct., "	102	Tilbury East, County of Kent...	Georgia, United States.....	Cancer.
6	Mary M. Huff.... ...	1st Feb., "	102	Murray, County of Northumberland.	Quebec	Old age.
7	Mary McCrimmon..	July, 1871.	103	Camden, Co. of Lennox & Addington	Invernesshire, Scotland.....	General Debility and old age.
8	Mary McLean	3rd Sept., 1872.	104	Euphemia, County of Lambton.....	Argyleshire, Scotland.....	Old age.
9	Christina Ferguson..	9th April, "	104	Nottawasaga, County of Simcoe.....	Islay, Scotland...	Old age.
10	Timothy McCarthy.	8th May, "	104	Toronto, County of York.....	Kerry, Ireland...	General debility.
11	Jane Sloan	30th June, "	106	Toronto, County of York.	Ireland	Senile debility.
12	Hector McLean.....	25th Dec., 1871.	106	Erin, County of Wellington.....	Scotland	Old age.
13	Mary Dodd..... ..	9th March, 1872.	107	Elma, County of Norfolk	Ireland	Old age.
14	Ann Campbell..	26th Sept., "	123	Kenyon, Co. of Stormont, Dundas & Glengarry	Scotland	Old age.

RECAPITULATION.

3	are returned as having died at the age of			100.	3	are returned as having died at the age of		104.
1	"	"	"	101.	2	"	"	106.
2	"	"	"	102.	1	"	"	107.
1	"	"	"	103.	1	"	"	123.

By this table it will be seen that the deaths of no less than 14 persons have been returned who are represented as having reached their hundredth year. Eighteen were returned among the deaths in 1871. Enquiries have been made with regard to these persons, but have resulted in nothing more than verifying the age of one

;

the ages of the remainder being purely supposition. In last year's report Division Registrars were requested, when recording the death of a centenarian, to require the informant to establish the age at the time of making the report, if possible. Out of the 14 returned in 1872, in only one instance has this request been complied with. For the future it is hoped Division Registrars will be more particular upon this point.

The following table will show the Increase or Decrease (as the case may be) in the different Counties between the Number of Deaths, registered in the year ended 31st Dec., 1871, and 31st Dec., 1872.

COUNTIES.	No. Registered in 1871.	No. Registered in 1872.	Increase.	Decrease.
Algoma	19	37	18	
Brant	225	227	2	
Bruce	126	144	18	
Carleton	189	213	24	
Elgin	172	157		15
Essex	213	336	123	
Frontenac	211	244	33	
Grey	180	203	23	
Haldimand	126	180	54	
Halton	168	199	31	
Hastings	124	248	124	
Huron	361	501	140	
Kent	157	264	107	
Lambton	178	279	101	
Lanark	128	134	6	
Leeds and Grenville	371	398	27	
Lennox and Addington	151	172	21	
Lincoln	136	157	21	
Middlesex	543	481		62
Muskoka	42	43	1	
Norfolk	234	303	69	
Northumberland and Durham	347	408	61	
Ontario	276	299	23	
Oxford	296	436	140	
Parry Sound	19	12		7
Peel	290	238		52
Perth	253	267	14	
Peterborough	118	112		6
Prescott and Russell	137	142	5	
Prince Edward	94	120	26	
Renfrew	146	193	47	
Simcoe	296	386	90	
Stormont, Dundas and Glengarry	190	228	38	
Thunder Bay		25	25	
Victoria	119	148	29	
Waterloo	375	432	57	
Welland	225	296	71	
Wellington	511	560	49	
Wentworth	532	541	9	
York	904	982	78	
Totals	9182	10745	1705	142
Total Decrease			142	
Total Increase			1563	

CAUSES OF DEATH.—

Exhibiting the number of Deaths from each cause

CAUSES OF DEATH.	Algoma.	Brant.	Bruce.	Carleton.	Elgin.	Essex.	Frontenac.	Grey.	Haldimand.	Halton.	Hastings.	Huron.	Kent.	Lambton.	Lanark.	Leeds and Grenville.	Lennox and Addington.	Lincoln.
All causes	37	227	141	213	157	336	244	203	180	199	248	501	264	279	134	398	172	157
Classes.																		
I. Zymotic	5	68	30	69	35	133	50	52	48	83	48	173	64	94	41	102	27	45
II. Diseases, uncertain seat	..	8	9	6	5	15	16	11	10	9	6	13	17	9	8	36	13	8
III. Tubercular	17	33	10	32	26	49	35	18	23	24	33	36	45	28	10	71	24	15
IV. Brain & Nervous System.	3	22	12	14	13	8	39	18	20	16	21	67	35	32	8	36	16	15
V. Organs of Circulation	..	10	17	8	9	4	19	44	9	12	20	20	11	7	14	25	18	18
VI. Respiratory Organs	1	29	12	16	17	32	16	14	16	14	21	47	25	26	10	32	9	11
VII. Organs of Digestion	2	16	19	15	12	28	20	15	20	15	16	50	11	17	11	26	14	14
VIII. Urinary Organs	..	3	1	3	2	3	2	3	..	2	8	9	2	4	2	2	3	2
IX. Organs of Generation	..	5	6	3	8	17	10	6	3	6	3	16	8	10	3	8	4	2
X. Organs of Locomotion	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	1	..
XI. Skin Disease	..	..	..	..	..	1	2	..	..	1	1	3	3	..	..	2	..	1
XII. Malformation	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	1
XIII. Atrophy	..	1	..	1	..	..	1	..	..	..	..	2	..	2	2	..	..	2
XIV. Old Age	2	7	9	20	17	15	12	24	8	9	7	21	10	13	14	32	10	7
XV. Sudden Death	..	..	..	2	..	..	1	..	3	..	2	1	..	3	1	1	1	2
XVI. Violent Death	5	11	9	22	3	25	16	17	9	6	49	16	18	18	5	14	10	9
Erroneously specified	..	1	..	..	..	1	..	2	..	..	..	4	1	3	1	1	..	1
Not specified	2	13	10	2	8	5	5	8	11	2	12	23	12	13	4	10	22	4
Totals	37	227	144	213	157	336	244	203	180	199	248	501	264	279	134	398	172	157
DISEASES.																		
I. *Zymotic.*																		
1 Small Pox	..	3	10	33	..	23	5	2	1	6	..	1	..	5	6	2	1	1
2 Measles	..	..	..	..	..	11	..	..	..	..	7	..	..	..	..	..	..	..
3 Scarlatina	..	15	4	7	8	40	4	10	15	34	2	38	16	7	12	34	1	3
4 Diptheria	..	3	..	1	8	4	2	1	2	4	..	9	4	10	..	2	1	5
5 Whooping Cough	..	..	..	3	..	1	..	6	1	..	1	17	2	5	1	2	..	..
6 Croup	2	3	1	1	1	8	..	4	2	1	..	9	6	6	2	8	..	5
7 Thrush	..	1	..	..	..	1	1	..	..	..	..	2	..	..	..	..	1	1
8 Diarrhœa	1	12	3	9	3	10	9	12	5	11	12	17	9	6	4	11	7	6
9 Dysentery	..	8	4	5	4	4	8	3	8	8	6	34	9	14	3	11	5	2
10 Cholera	..	1	..	1	1	..	1	..	..	1	..	1	..	3	..	4	1	3
11 Cholera Infantum	..	10	1	1	1	8	2	1	2	8	6	5	..	9	2	3	..	1
12 Influenza	2	..	..	..	..	..	..	..	..	..	..	..	..	2	2	3	2	2
13 Purpura	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..
14 Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15 Worms	..	..	..	..	..	..	2	..	..	2	..	..	..	..	..	2	1	..
16 Infantile Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17 Typhoid Fever	..	5	4	1	4	17	8	1	7	7	11	19	8	11	9	7	2	12
18 Rheumatic Fever	..	..	1	..	..	1	..	4	..	..	..	3	..	1	..	1	1	1
19 Syphilis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
20 Erysipelas	..	1	1	2	1	2	4	2	3	..	2	7	1	4	..	5	..	1
21 Fever	..	6	1	5	4	3	4	4	2	..	1	11	9	11	..	6	4	2
Totals	5	68	30	69	35	133	50	52	48	83	48	173	64	94	41	102	27	45
II. *Diseases, uncertain seat.*																		
1 Hemorrhage	..	3	1	..	..	3	2	1	..	..	1	1	3	1	..	1	1	..
2 Dropsy	..	1	4	1	2	7	6	9	5	5	1	5	10	3	5	22	7	6
3 Abscess	..	..	2	1	..	2	2	..	1	1	..	2	..	..	..	2	..	1

CLASSIFIED ARRANGEMENT.

in the several Counties, statistically classified.

Middlesex.	Muskoka.	Norfolk.	Northumberland and Durham.	Ontario.	Oxford.	Parry Sound.	Peel.	Perth.	Peterborough.	Prescott and Russell.	Prince Edward.	Renfrew.	Simcoe.	Stormont, Dundas and Glengarry.	Thunder Bay.	Victoria.	Waterloo.	Welland.	Wellington.	Wentworth.	York.	Province of Ontario.
481	43	303	408	299	436	12	238	267	112	142	120	193	386	228	25	148	432	296	560	541	982	10745
122	6	87	120	80	119	7	88	114	23	53	40	42	112	42	17	38	112	88	179	134	264	3054
31	2	15	24	15	28	...	7	15	10	10	8	9	15	20	1	12	23	13	26	25	55	563
50	4	36	63	44	45	...	17	15	18	11	20	24	26	32	.....	19	60	37	52	71	135	1308
64	4	46	30	29	48	...	21	25	13	9	12	19	48	19	.....	10	66	38	57	61	125	1139
27	6	13	28	21	34	...	13	16	4	5	5	7	22	13	1	11	14	18	23	16	47	579
60	2	27	31	32	38	..	20	18	7	6	5	14	33	23	1	18	28	27	74	65	93	970
41	3	21	33	22	38	2	23	22	7	15	6	19	33	10	.....	15	35	16	40	73	100	895
7	1	5	14	5	5	...	6	1	3	2	1	1	1	4	.....	5	1	4	6	8	14	145
11	1	10	8	5	5	...	7	6	2	4	2	11	13	11	.....	5	12	6	11	9	18	275
2	...	...	2	1	...	...	3	.....	.....	2	1	3	1	3	.....	.....	3	3	3	3	4	38
...	...	1	5	1	4	...	.....	.....	.....	1	.....	.....	2	1	.....	1	5	.....	.....	2	1	38
...	...	...	.....	1	2	...	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	2	14
5	...	...	.....	1	...	...	.....	.....	.....	.....	.....	.....	.....	.....	1	...	1	2	1	7	11	40
28	2	14	24	12	17	...	11	15	5	8	3	11	20	13	.....	1	25	14	30	15	40	545
1	..	1	1	1	3	...	1	.....	2	2	1	.....	2	1	.....	1	.....	.....	1	.....	5	40
19	5	19	16	13	17	1	4	6	7	8	7	25	34	10	4	1	18	16	27	28	52	599
6	1	1	2	6	2	...	4	1	.....	.....	.....	1	2	2	.....	1	4	3	.....	.....	3	54
7	6	7	7	10	31	2	13	12	11	5	9	7	22	24	.....	10	23	11	29	24	13	449
481	43	303	408	299	436	12	238	267	112	142	120	193	386	228	25	148	432	296	560	541	982	10745
7	...	8	4	1	6	...	1	.....	.....	8	.....	.....	1	4	.....	.....	2	4	.....	3	39	187
3	...	1	8	4	2	...	1	1	1	.....	.....	2	.....	1	14	.....	.....	1	1	.....	3	61
4	2	2	11	12	44	...	39	24	6	5	.....	4	49	7	.....	15	26	17	58	20	47	642
8	...	14	6	3	7	...	3	12	1	1	3	.....	5	2	.....	.....	6	8	8	13	8	164
4	1	...	7	1	1	...	3	6	.....	.....	2	.....	10	.....	.....	2	4	1	11	6	7	105
7	...	5	3	4	...	1	2	8	1	4	2	7	4	.....	.....	.....	10	3	8	7	5	140
5	...	...	2	1	...	...	1	1	.....	.....	.....	1	1	.....	.....	.....	.....	.....	2	.....	4	25
19	1	21	13	11	12	1	4	5	4	1	11	10	16	3	...	2	15	8	29	29	45	407
18	...	10	21	15	10	...	4	11	4	3	10	4	9	3	1	7	9	7	22	15	23	342
2	...	...	.....	3	1	...	1	1	1	4	.....	1	.....	1	.....	.....	2	1	1	2	4	42
1	...	2	12	8	5	3	6	2	1	3	1	1	...	1	.....	1	8	13	7	11	20	166
...	1	5	.....	2	3	...	3	4	1	2	1	3	1	3	.....	1	2	1	2	1	5	54
1	...	...	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	7
...	...	...	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
...	...	1	1	...	...	...	2	1	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	1	16
3	...	...	1	3	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	8
18	1	4	14	9	11	1	12	20	.....	1	4	2	7	11	2	3	12	8	19	13	24	329
2	...	1	2	...	1	...	.....	3	2	.....	2	1	1	.....	.....	2	1	2	4	.....	2	39
...	...	...	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	5
9	...	10	9	2	5	...	2	6	.....	1	1	1	5	.....	.....	5	1	5	7	14	14	120
11	...	3	6	1	11	1	4	9	1	20	3	2	7	1	.....	5	10	12	2	6	7	195
122	6	87	120	80	119	7	88	114	23	53	40	42	112	42	17	38	112	88	179	134	264	3054
4	1	...	3	2	1	...	1	.....	3	2	1	2	2	2	.....	.....	1	.....	1	1	7	52
12	...	5	12	5	11	...	3	7	5	5	6	5	8	7	1	9	13	7	12	11	9	262
5	...	5	3	1	2	...	1	2	.....	.....	.....	.....	1	3	.....	.....	3	.....	2	3	8	53

CAUSES OF DEATH.—

Exhibiting the number of Deaths from each cause

CAUSES OF DEATH.	Algoma.	Brant.	Bruce.	Carleton.	Elgin.	Essex.	Frontenac.	Grey.	Haldimand.	Halton.	Hastings.	Huron.	Kent.	Lambton.	Lanark.	Leeds and Grenville.	Lennox and Addington.	Lincoln.
4 Mortification	...	...	...	...	...	...	...	...	1	...	...	...	...	.....	...	1	.....	.....
5 Cancer	...	2	2	2	1	2	5	1	2	3	4	3	4	4	3	8	4	1
6 Morbid state of the blood	...	2	...	2	2	1	1	...	1	...	...	2	...	1	.....	2	1	.....
Totals	...	8	9	6	5	15	16	11	10	9	6	13	17	9	8	36	13	8
III. *Tubercular.*																		
1 Scrofula:	...	1	...	...	...	...	1	..	1	...	1	...	...	3	.....	.....	.....	.....
2 Tabes Mesenterica	...	...	...	...	...	...	2	...	2	...	...	...	...	.....	.....	.....	.....	.....
3 Gangrene Senilis	...	...	...	...	...	1	1	...	...	...	...	...	...	.....	.....	.....	.....	.....
4 Phthisis	17	28	9	29	23	41	29	14	15	23	26	33	37	23	8	65	24	15
5 Hydrocephalus	...	4	1	3	3	5	2	3	5	1	5	3	8	2	2	6	.....	.....
6 Chest Disease	...	...	...	...	...	2	...	1	...	...	1	...	...	.....	.....	.....	.....	.....
Totals	17	33	10	32	26	49	35	18	23	24	33	36	45	28	10	71	24	15
IV. *Brain and Nervous System.*																		
1 Cephalites (Neuralgia)	...	...	...	...	...	...	1	...	1	1	1	1	...	.....	.....	.....	1	.....
2 Apoplexy	1	4	3	...	1	...	9	4	2	1	2	4	2	3	1	8	5	5
3 Paralysis	...	2	1	5	2	4	3	1	2	2	3	8	3	4	4	8	2	3
4 Delirium Tremens	1	...	...	...	...	...	2	...	...	1	1	2	...	1	.....	1	.....	1
5 Hysteria	...	1	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	.....	.....
6 Epilepsy	...	...	...	...	...	...	8	...	...	2	1	1	2	.....	1	.....	.....	1
7 Tetanus	...	1	...	...	...	...	1	...	...	...	...	1	...	.....	.....	.....	.....	.....
8 Spinal Disease	...	1	...	...	...	...	...	...	...	2	...	3	3	.....	.....	.....	.....	1
9 Insanity	...	...	...	2	...	...	...	...	...	...	...	1	...	1	.....	.....	1	.....
10 Convulsions	1	3	3	4	3	2	3	7	4	1	4	11	12	7	.....	7	2	1
11 Brain Disease	..	10	5	3	7	2	13	5	11	5	8	21	10	10	2	8	5	2
12 Brain Fever	...	...	...	...	...	...	...	...	...	1	1	14	3	6	.....	4	.....	1
Totals	3	22	12	14	13	8	39	18	20	16	21	67	35	32	8	36	16	15
V. *Organs of Circulation.*																		
1 Pericarditis	..	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	.....	.....
2 Glandular Disease	...	...	1	...	...	...	...	...	...	...	1	...	...	.....	.....	1	1	1
3 Aneurism	...	1	...	...	...	1	1	1	...	...	...	...	...	.....	.....	.....	.....	.....
4 Heart Disease	...	6	6	6	4	1	13	11	7	10	7	10	8	4	5	19	16	12
5 Inflammation	...	3	10	2	5	2	5	2	2	2	12	10	3	3	9	5	2	5
Totals	...	10	17	8	9	4	19	14	9	12	20	20	11	7	14	25	18	18
VI. *Respiratory Organs.*																		
1 Laryngitis	...	...	...	...	...	...	...	1	1	2	...	...	3	.....	1	.....	.....	.....
2 Bronchitis	...	6	2	4	4	6	4	1	3	2	3	11	4	7	2	1	.....	1
3 Pleurisy	...	...	...	...	...	2	...	3	...	...	...	...	...	1	1	.....	.....	.....
4 Pneumonia	...	15	6	8	11	16	6	6	7	8	14	27	14	14	3	21	4	6
5 Asthma	...	...	1	1	...	4	1	1	...	...	...	2	...	.....	1	2	2	1
6 Lung Disease	1	8	3	3	2	4	5	2	5	2	4	7	4	4	2	8	3	3
Totals	1	29	12	16	17	32	16	14	16	14	21	47	25	26	10	32	9	11
VII. *Organs of Digestion.*																		
1 Teething	...	2	2	1	...	1	...	...	1	1	...	1	...	.....	.....	1	1	1
2 Quinsy	...	1	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	.....	.....
3 Gastritis	...	2	...	2	...	...	1	...	1	...	1	4	...	1	.....	1	.....	.....

CLASSIFIED ARRANGEMENT.—*Continued.*

in the several Counties, statistically classified.

Middlesex.	Muskoka.	Norfolk.	Northumberland and Durham.	Ontario.	Oxford.	Parry Sound.	Peel.	Perth.	Peterborough.	Prescott and Russell.	Prince Edward.	Renfrew.	Simcoe.	Stormont, Dundas and Glengarry.	Thunder Bay.	Victoria.	Waterloo.	Welland.	Wellington.	Wentworth.	York.	Province of Ontario.
...	...	...	.....	2	...	...	...	...	...	...	...	.....	.....	2	.....	.....	1	.....	1	.....	1	9
8	...	2	4	4	2	...	1	4	1	2	1	1	4	4	.....	2	3	5	8	9	12	135
2	1	3	2	1	5	...	1	2	1	1	.....	1	.....	2	.....	1	2	1	2	1	8	52
31	2	15	24	15	28	...	7	15	10	10	8	9	15	20	1	12	23	13	26	25	55	563
1	...	...	.....	...	2	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	1	13
1	...	1	3	2	1	...	.....	2	.....	.....	.....	.....	1	2	.....	1	3	.....	.....	2	4	27
...	...	...	2	1	...	...	2	.....	.....	.....	1	.....	.....	2	.....	1	.....	.....	.....	1	3	15
46	4	31	50	34	38	...	14	12	16	11	18	24	23	24	.....	14	54	30	46	60	112	1120
2	...	4	8	7	3	...	1	1	2	.....	1	.....	2	4	.....	3	1	7	6	7	14	126
...	...	...	.....	...	1	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	7
50	4	36	63	44	45	...	17	15	18	11	20	24	26	32	.....	19	60	37	52	71	135	1308
4	...	...	.....	1	...	...	.....	1	2	.....	.....	.....	1	2	.....	.....	.....	.....	.....	2	3	22
5	...	5	4	2	7	...	3	2	1	1	1	2	7	2	.....	.....	13	7	7	13	19	156
8	1	6	7	6	10	...	3	1	.....	2	2	6	1	4	.....	.....	7	9	3	7	17	157
2	...	...	.....	1	...	...	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	2	1	1	1	20
1	...	3	.....	...	1	...	...	1	1	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....	11
3	...	...	1	...	1	...	.....	.....	.....	.....	.....	.....	3	2	.....	.....	3	1	3	1	2	36
1	...	...	.....	...	1	...	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	4	12
1	...	1	2	1	4	...	3	2	.....	.....	.....	.....	.....	2	.....	.....	1	4	3	2	1	37
2	...	1	.....	...	.....	...	.....	.....	.....	.....	.....	.....	1	.....	.....	1	1	.....	.....	.....	6	17
11	1	12	7	5	8	...	5	7	4	1	.....	6	22	3	.....	2	30	6	13	13	27	258
17	1	10	7	10	12	...	5	9	5	3	9	3	5	3	.....	5	8	2	20	18	39	318
9	1	8	2	3	4	...	1	2	.....	2	.....	2	6	1	.....	2	1	5	7	3	6	95
64	4	46	30	29	48	...	21	25	13	9	12	19	48	19	.....	10	66	38	57	61	125	1139
2	...	2	1	1	1	...	1	.....	.....	.....	.....	.....	2	1	.....	.....	1	2	.....	3	3	20
...	...	1	.....	...	...	...	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	8
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
19	6	7	13	11	17	...	7	7	2	3	3	4	9	8	1	5	7	15	12	11	38	350
6	...	3	14	9	16	...	3	9	2	2	2	3	11	4	...	6	6	1	10	2	6	197
27	6	13	28	21	34	...	13	16	4	5	5	7	22	13	1	11	14	18	23	16	47	579
...	...	1	1	...	3	...	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2	.....	1	5	3	26
8	...	3	2	10	9	...	5	3	.....	2	2	3	12	6	.....	5	1	6	9	9	18	174
1	...	1	1	...	...	...	1	.....	.....	.....	.....	1	2	1	.....	.....	2	.....	1	2	4	24
37	2	16	19	16	20	...	13	9	3	2	3	5	15	15	1	11	14	11	35	34	47	514
2	...	3	3	2	...	...	1	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	4	6	41
12	...	3	5	4	6	...	.....	5	4	1	.....	4	4	1	.....	1	9	10	26	11	15	191
60	2	27	31	32	38	...	20	18	7	6	5	14	33	23	1	18	28	27	74	65	93	970
...	...	1	1	2	3	...	1	2	.....	1	.....	4	3	.....	.....	.....	7	1	3	3	6	50
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
3	1	...	.....	1	1	...	1	1	.....	2	.....	.....	2	.....	.....	1	3	1	1	1	5	37

CAUSES OF DEATH—

Exhibiting the number of Deaths from each cause

CAUSES OF DEATH.	Algoma.	Brant.	Bruce.	Carleton.	Elgin.	Essex.	Frontenac.	Grey.	Haldimand.	Halton.	Hastings.	Huron.	Kent.	Lambton.	Lanark.	Leeds and Grenville.	Lennox and Addington.	Lincoln.
4 Enteritis	...	1	...	...	...	2	2	2	2	...	...	6	...	2	1	.....	.....	1
5 Peritonitis	...	1	4	2	2	5	1	1	1	3	1	10	1	2	1	2	.....	1
6 Ascites	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	1	.....	...
7 Hernia	...	...	2	...	...	...	1	2	2	1	1	2	...	.....	1	.....	.....	...
8 Intersusception	...	...	...	1	...	1	...	...	...	...	...	...	...	.....	.....	.....	.....	...
9 Stomach Disease	...	2	1	...	2	1	1	3	1	3	2	10	4	2	1	9	3	4
10 Exhaustion	2	6	6	5	4	16	11	7	9	6	9	13	3	6	6	8	8	5
11 Hepatitis	...	1	1	2	...	...	1	...	1	...	...	1	...	2	.....	1	.....	1
12 Jaundice	...	...	...	...	...	1	...	...	...	...	...	2	...	2	...	1	1	..
13 Liver Disease	...	...	3	2	4	1	2	...	2	1	2	1	3	.....	1	2	1	1
Totals	2	16	19	15	12	28	20	15	20	15	16	50	11	17	11	26	14	14
VIII. *Urinary Organs.*																		
1 Diabetes	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	2
2 Stone and Gravel	...	...	1	..	...	...	1	...	1	1	3	2	1	2	1	.....	1	...
3 Stricture of Urethra	...	1	...	...	...	...	...	...	...	...	1	...	...	.....	.....	.....	.....	...
4 Kidney Disease	...	2	...	3	1	3	1	1	...	1	3	4	1	1	.....	1	2	...
5 Disease of Bladder	..	...	...	...	...	...	1	1	...	...	1	3	...	.....	1	.....	.....	...
Totals	...	3	1	3	2	3	2	3	...	2	8	9	2	4	2	2	3	2
IX. *Organs of Generation.*																		
1 Ovarian Dropsy	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	.....	1
2 Childbirth	...	4	4	3	8	16	7	3	2	5	3	15	8	10	3	7	4	1
3 Organs of Generation	...	1	2	...	...	1	3	3	1	1	...	1	...	.....	.....	1	.....	...
Totals	...	5	6	3	8	17	10	6	3	6	3	16	8	10	3	8	4	2
X. *Organs of Locomotion.*																		
1 Arthritis	..	...	...	...	1	...	..	..	...	...	...	...	...	.....	.....	.....	.....	...
2 Rheumatism	...	...	...	...	...	...	...	...	...	...	1	...	1	.....	.....	.....	1	.
3 Joint and Bone Disease	..	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	.....	...
Totals	...	...	...	...	1	...	..	...	...	...	1	...	1	.....	.....	.....	1	..
XI. *Skin Disease.*																		
1 Carbuncle	...	...	...	...	...	...	1	...	...	...	...	...	1	.....	.....	.....	.....	..
2 Skin Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	1	.....	...
3 Emphysema	...	...	...	...	...	1	1	..	...	...	1	3	2	.....	.....	1	.....	1
4 Goitre	...	...	...	...	...	...	...	...	...	1	...	...	...	.....	.....	.....	.....	...
Totals	...	...	...	...	...	1	2	...	...	1	1	3	3	.....	.....	2	.....	1
XII. *Malformation.*																		
1 Cyanosis	.	...	...	...	1	...	...	...	...	...	...	...	...	.....	.....	.....	.....	..
2 Spina Bifidia	..	...	...	...	...	...	...	1	...	...	...	...	...	.....	.....	.....	.....	1
3 Other Malformations	...	.	...	...	...	...	...	.	...	...	...	...	1	.....	.....	.....	.....	...
Totals	..	...	...	...	1	...	...	1	...	...	...	...	1	.....	.....	.....	.....	1

CLASSIFIED ARRANGEMENT.—*Continued.*

in the several Counties statistically classified.

Middlesex.	Muskoka.	Norfolk.	Northumberland and Durham.	Ontario.	Oxford.	Parry Sound.	Peel.	Perth.	Peterborough.	Prescott and Russell.	Prince Edward.	Renfrew.	Simcoe.	Stormont, Dundas and Glengarry.	Thunder Bay.	Victoria.	Waterloo.	Welland.	Wellington.	Wentworth.	York.	Province of Ontario.
3	...	1	3	1	2	...	2	.....	.....	.....	.....	.....	5	2	.....	2	2	.....	3	11	6	62
3	1	4	4	7	5	...	2	2	.....	1	2	.....	1	3	.....	3	3	1	6	9	11	105
1	...	...	.....	...	1	...	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	4	10
...	...	2	2	1	3	...	2	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	1	...	1	27
...	...	...	.....	...	...	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
4	..	1	6	5	9	1	1	5	3	2	.....	3	4	.....	.....	2	7	3	10	7	9	131
15	1	8	10	3	9	...	9	8	3	9	3	7	10	4	.....	5	8	8	10	25	47	332
3	...	...	.....	...	1	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	2	.....	19
1	..	2	1	1	..	...	.....	.....	.....	.....	.....	.....	3	1	.....	.....	.....	.....	2	3	2	23
8	...	2	6	1	4	...	5	4	1	.....	1	2	4	2	.....	2	3	1	3	10	9	94
42	3	21	33	22	38	2	23	22	7	15	6	19	33	10	.....	15	35	16	40	73	100	895
1	...	1	2	1	...	...	3	1	1	.....	.....	.....	.....	.....	.....	2	1	1	3	1	1	24
...	1	..	...	...	1	...	.....	.....	.....	.....	.....	.....	...	2	.....	.....	.....	2	1	2	1	23
...	...	...	2	1	...	...	.....	.....	.....	.....	.....	1	...	1	.....	.....	.....	1	.....	.....	.....	8
5	...	4	8	1	3	...	1	.....	2	1	1	...	1	1	.....	3	.....	.....	2	3	10	70
1	...	...	2	2	1	...	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	20
7	1	5	14	5	5	...	6	1	3	2	1	1	1	4	.....	5	1	4	6	8	14	145
...	...	1	.....	...	...	...	.....	.....	.....	.....	.....	.....	2	1	.....	.....	1	.....	2	.....	1	9
8	1	7	5	3	4	...	6	6	2	3	2	11	10	9	.....	5	9	6	8	8	14	230
3	..	2	3	2	1	...	1	.....	.....	1	.....	...	1	1	.....	.....	2	.....	1	1	3	36
11	1	14	8	5	5	...	7	6	2	4	2	11	13	11	.....	5	12	6	11	9	18	275
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	3
2	...	..	2	1	...	...	3	.....	.....	2	1	3	.....	2	.....	.....	2	2	2	3	2	30
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....	2	5
2	...	...	2	1	...	...	3	.....	.....	2	1	3	1	3	.....	.....	3	3	3	3	4	38
...	...	1	.....	...	3	...	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	3	.....	.....	.....	.....	5
...	...	...	5	1	1	...	.....	.....	.....	.....	.....	.....	2	1	.....	.....	1	.....	.....	2	1	24
...	...	...	.....	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
...	...	1	5	1	4	...	.....	.....	.....	1	.....	.....	2	1	.....	1	5	.....	.....	2	1	38
...	...	...	.....	...	1	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	3
...	...	...	.....	...	1	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	5
...	...	...	.....	1	...	...	.....	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	6
...	..	...	.....	1	2	...	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	2	14

CAUSES OF DEATH—

Exhibiting the number of Deaths from each cause

CAUSES OF DEATH.	Algoma.	Brant.	Bruce.	Carleton.	Elgin.	Essex.	Frontenac.	Grey.	Haldimand.	Halton.	Hastings.	Huron.	Kent.	Lambton.	Lanark.	Leeds and Grenville	Lennox and Addington.	Lincoln.
XIII. *Atrophy.*																		
Totals	...	1	...	1	...	...	1	...	...	...	...	2	...	2	2	.....	.....	2
XIV. *Old Age.*																		
Totals	2	7	9	20	17	15	12	24	8	9	7	21	10	13	14	32	10	7
XV. *Sudden Death.*																		
Totals	...	...	...	2	...	...	1	...	3	...	2	1	...	3	1	1	1	2
XVI. *Violent Death.*																		
1 Intemperance	...	..	1	...	...	2	2	...	1	1	3	1	1	3	1	1	.....	...
2 Accidents	...	5	5	4	2	8	3	13	6	2	5	7	4	11	4	7	2	6
3 Want of Breast Milk	...	...	...	1	...	1	...	...	...	...	...	...	...	.....	.....	.....	.....	...
4 Cold	...	...	...	...	...	2	1	...	...	...	...	...	1	.....	.....	.....	.....	..
5 Poison	...	...	...	...	...	2	..	...	...	...	...	...	...	1	.....	.....	.....	...
6 Burns and Scalds	1	2	1	7	...	4	1	..	..	2	30	1	4	2	.....	.....	.....	1
7 Suffocation	...	...	1	...	...	...	...	1	1	...	...	2	...	.....	..	.....	.....	...
8 Drowning	3	4	...	5	...	..	6	1	...	...	8	...	3	.....	.....	1	3	1
9 Fracture and Contusion	...	...	...	2	1	1	1	2	...	...	1	1	...	.....	.....	1	3	...
10 Suicide	...	...	...	1	...	1	...	...	1	...	...	...	1	.....	.....	.....	.....	..
11 Wounds	..	...	...	...	...	1	...	...	...	1	1	...	...	1	.....	...	2	...
12 Murder	...	...	...	..	...	...	...	...	...	..	..	...	...	.....	.....	.....	.....	...
13 Premature Birth	1	...	1	2	...	3	2	..	...	...	1	4	4	.....	.....	3	.....	1
14 Hanged	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	1	.....	..
Totals	5	11	9	22	3	25	16	17	9	6	49	16	18	18	5	14	10	9
Erroneously specified.																		
Totals	...	1	...	...	...	1	...	2	...	...	...	4	1	3	1	1	.....	1
Not specified.																		
Totals	2	13	10	2	8	5	5	8	11	2	12	23	12	13	4	10	22	4

CLASSIFIED ARRANGEMENT.—*Concluded.*

in the several Counties statistically classified.

Middlesex.	Muskoka.	Norfolk.	Northumberland and Durham.	Ontario.	Oxford.	Parry Sound.	Peel.	Perth.	Peterborough.	Prescott and Russell.	Prince Edward.	Renfrew.	Simcoe.	Stormont, Dundas and Glengarry.	Thunder Bay.	Victoria.	Waterloo.	Welland.	Wellington.	Wentworth.	York.	Province of Ontario.
5	...	...	.....	1	...	...	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	2	1	7	11	40
28	2	14	24	12	17	..	11	15	5	8	3	11	20	13	.....	1	25	14	30	15	40	545
1	...	1	1	1	3	...	1	.....	2	2	1	.....	2	1	.....	1	.....	.....	1	.....	5	40
5	1	2	3	...	1	.....	.....	.....	.....	.....	.....	3	2	.....	1	.....	1	2	4	5	8	55
7	3	5	10	5	9	..	3	5	2	1	2	8	11	2	1	1	2	6	12	5	14	208
...	...	...	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	1	...	...	.....	.....	7
1	1	...	.....	...	1	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	10
...	...	1	.....	2	...	.....	.....	.....	.....	1	.....	.....	.....	3	.....	.....	.....	.....	.....	2	2	14
1	...	4	.....	...	1	.....	.....	.....	1	1	.....	1	6	2	.....	.....	2	2	2	1	10	90
...	...	1	.....	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	7
1	...	1	1	3	1	.....	.....	1	.....	3	2	7	1	.....	1	.....	2	2	3	10	3	77
...	...	...	.....	...	.....	.....	.....	.....	.....	.....	.....	1	.....	2	1	.....	2	1	.....	1	3	24
1	...	2	.....	1	1	..	1	.....	.....	.....	.....	1	1	.....	.....	.....	2	.....	.....	1	2	17
...	...	...	.....	...	1	1	.....	.....	.....	.....	.....	2	1	1	.....	.....	.....	.....	.....	.....	.....	12
...	...	...	.....	...	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	3
2	..	3	2	2	2	...	.....	.....	1	2	3	1	8	...	.....	.....	4	3	6	3	9	73
1	...	...	.....	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
19	5	19	16	13	17	1	4	6	7	8	7	25	34	10	4	1	18	16	27	28	52	599
6	1	1	2	6	2	...	4	1	.....	.....	.....	1	2	2	.....	1	4	3	.....	.....	3	54
7	6	7	7	10	31	2	13	12	11	5	9	7	22	24	.....	10	23	11	29	24	13	449

This table exhibits a complete analysis of the causes of deaths in each County, grouped into 16 divisions, and these divisions subdivided into classes.

This table would be of incalculable benefit to the public were the registrations at all approximate to the estimated number.

The total number of deaths recorded during 1870, was.....	6,905
The total number of deaths recorded during 1871, was.....	9,182
The total number of deaths recorded during 1872 was.....	10,745
Here we have an increased registration in 1871 over 1870, of.....	2,277
And in 1872 over 1871 of.....	1,563

With a view of practically testing the result reported by the Division Registrar for the City of Toronto, enquiry was made by this Department as to the number of persons buried in the three cemeteries attached thereto, during the year under review. It was ascertained that interments had taken place in the

Necropolis to the number of.....	892
St. James' Cemetery "	572
St. Michael's Cemetery "	376
	1840

Of course these cemeteries are to some extent used by the people of the adjoining districts, but to meet that fact, and for the purposes of comparison, a margin of one-fourth is deducted from the total. That leaves a record of 1380 deaths to be accounted for, yet only 564 out of this number are reported to the Division Registrar. When such apathy in discharge of this registration duty is displayed by the medical profession in the capital of Ontario, where the Act is as prominently as possible brought under their notice, and where strong efforts are made by the Division Registrar to give effect to it, it is not surprising that the outlying Registration Districts should exhibit such an indifferent return in this respect.

Four thousand eight hundred and ninety-nine deaths, or nearly one half of all registered, were said to have resulted from the ten causes named in the following table :

Phthisis.....	1120
Scarlatina.....	642
Old Age	545
Pneumonia.....	514
Diarrhœa	407
Heart Disease.....	350
Dysentery.....	342
Exhaustion	332
Typhoid Fever.....	329
Brain Disease.....	318
	4899

Phthisis heads the list and occasioned the death of more than the two next highest causes put together, and rather more than one-tenth of all the deaths reported.

In the State of Michigan the ratio is 15 per cent., and in the State of Massachusetts 17 per cent. of all the deaths reported in these States.

Scarlatina comes second in the order of causes producing the greatest mortality, and resulted in the death of 642 persons.

Old age stands third, and it is reason for congratulation that so large a proportion of the deaths is due to natural decay, a fact that speaks well for the healthiness of our climate.

Pneumonia appears fourth on the list of the most prominent causes of death.

The returns from England give 5 in every hundred; Scotland 3 in every hundred; Massachusetts 6 in every hundred; and Ontario 5 in every hundred.

Diarrhœa stands fifth in order. The mortality from this cause greatly varies in the different counties in the Province, as will be seen by the following table:—

Norfolk	1	death	in every	14
Wentworth	1	"	"	18
Wellington	1	"	"	19
York	1	"	"	21
Simcoe	1	"	"	24
Lanark	1	"	"	33
Bruce	1	"	"	48
Elgin	1	"	"	52
Peel	1	"	"	60
Stormont, Dundas & Glengarry	1	"	"	76

Heart disease comes sixth on the list. The Nova Scotia statistical report for 1871 quotes from the Registrar General of England to the effect that "these "diseases (of the organs of circulation), more especially heart disease, are rapidly "increasing, and the cause is attributed to the increased and increasing intellectual "activity and excitement which is one of the special characteristics of the times in "which we live,"

It adds that "a very striking proof of the increased mortality from heart "disease is afforded in the annual reports of the Registrar General of England."

"In 1856, the deaths in that country from this disease were 12,803, being "equal to 1 in 1487 of the then population."

"The number of deaths returned from the same cause in 1869 was 23,628, or "1 in 925 of the population as then existing, being an increase of 60 per cent. in "13 years."

In this Province, according to the returns sent in to this Department since the Act came into force, a period of three and a-half years, the increase appears to be

101.$\frac{14}{00}$ per cent. With complete returns the actual increase would no doubt be found to be much less.

The seventh and next disease in the foregoing table is dysentery. This disease seems to have been more evenly distributed throughout the Province than diarrhœa, excepting in the County of Huron, which has returned a much greater number of deaths from the former cause than has any other county, viz., 34, or 1 in every 15 deaths. The average throughout the Province is one in every 31 deaths.

Imperfect drainage and impure water are ascertained causes of this disease.

Exhaustion caused the death of 332 persons in 1872, while in 1871 the returns shewed the number to be 467, a decrease of 135 in favour of 1872.

Typhoid Fever.—This disease has been the cause of much discussion, on account of the many reasons assigned for its presence in various localities.

The following are the counties where it was most prevalent during 1872,

York	24	cases, or	1 in 40	deaths.
Perth	20	"	1 in 13	"
Huron	19	"	1 in 26	"
Wellington	19	"	1 in 29	"
Middlesex	18	"	26	"
Essex	17	"	1 in 19	"

TABLE showing the Proportion of Births, Marriages and Deaths to the Population estimated upon the Census of 1871.

COUNTIES.	Population by Census of 1871.	Number of Births returned, 1872.	To Population one Birth in	No. of Marriages returned, 1872.	To Population one Marriage in	Number of Deaths returned in 1872.	To Population one Death in
Algoma	7018	69	101	26	27	37	189
Brant	32259	538	60	187	172	227	141
Bruce	48515	483	101	181	268	144	336
Carleton	43284	502	86	296	146	213	203
Elgin	33666	307	109	260	129	157	214
Essex	32697	633	52	251	130	336	97
Frontenac	28717	279	103	285	100	241	117
Grey	59395	765	78	257	231	203	292
Haldimand	24851	483	51	167	148	180	138
Halton	22606	397	57	151	150	199	113
Hastings	48364	329	147	349	140	248	195
Huron	66165	1192	56	337	296	501	132
Kent	40644	600	67	279	145	264	153
Lambton	38897	548	71	205	189	279	139
Lanark	33020	230	144	224	147	134	246
Leeds and Grenville	57918	740	78	359	161	398	145
Lennox and Addington	37708	357	106	201	187	172	219
Lincoln	29547	338	87	163	181	157	188
Middlesex	82595	980	84	611	135	481	171
Muskoka	5400	184	29	25	216	43	125
Norfolk	30763	743	41	202	148	303	101
Northumberland and Durham	76466	672	114	364	210	408	187
Ontario	45890	857	54	288	159	299	153
Oxford	48237	985	49	362	133	436	110
Parry Sound	1519	37	41	23	66	12	126
Peel	26011	533	49	146	177	238	109
Perth	46522	781	59	280	166	267	174
Peterborough	30475	308	99	158	192	112	272
Prescott and Russell	35991	315	114	162	222	142	253
Prince Edward	20336	179	113	123	165	120	169
Renfrew	27974	534	52	212	132	193	145
Simcoe	64248	754	85	405	158	386	169
Stormont, Dundas and Glengarry	58288	452	129	327	178	228	255
Victoria	30200	341	88	172	175	148	204
Waterloo	40251	922	44	352	114	132	93
Welland	25761	444	58	147	175	296	87
Wellington	63290	1314	48	489	129	560	113
Wentworth	57599	1050	55	416	138	541	106
York	116074	2182	53	1001	115	982	118

Following the practice adopted in previous reports, a statement is given of the counties from which the six best and the six worst returns have been received, and here it is found that in order of merit several have changed places. Last year Muskoka, Peel, Waterloo, Norfolk, Wellington and Wentworth, took first rank in the excellence of their returns. Of these only three have maintained their positions, viz: Muskoka, Waterloo and Wellington. The others, Peel, Norfolk and Wentworth have—so to speak—lost caste, and their places are taken by Parry Sound, Welland and Oxford. Again, last year the rear division was composed of Algoma, Hastings, Prescott and Russell, Stormont, Dundas and Glengarry, Lanark and Bruce. Of these, Hastings is to-day in better company, having evidently abandoned their policy of masterly inactivity. The list is as follows:

The six best returns are from Parry Sound, Muskoka, Waterloo, Welland, Wellington and Oxford.

The six least satisfactory returns are from Prescott and Russell, Bruce, Stormont, Dundas and Glengarry, Lanark, Algoma and Peterborough.

In the former reports submitted from this Department to His Excellency the then Lieutenant-Governor, suggestions were made in favour of merging the Provincial Registration Department into one Dominion Department at Ottawa.

The late Minister of Agriculture at Ottawa, being evidently impressed with that view, introduced a Bill for the purpose of establishing a complete system of registration for the Dominion. It was, however, for some reason allowed to drop. The value that correct registrations would be to the public is manifest from the number of applications made to this Department during the last twelve months for certificates of the particulars of births, marriages and deaths.

The small amount of remuneration, now paid by the Municipal Councils throughout the Province to the Division Registrars, is not such as will induce those officials to take a very deep interest in the faithful performance of their duties.

The undersigned, however, is satisfied that adequate payment to them would secure at no distant day a full return of all births, marriages and deaths occurring throughout the Province. During the present year everything has been done by the Department to ensure the most correct returns possible.

The requirements of the Act have been brought under the immediate notice of nearly every family in the Province, and almost all the Division Registrars have, in accordance with the suggestion of last year's report, had a brief resumé of them printed on the back of the Assessment Schedules. Handbills have been sent to every Postmaster in the Province, setting forth the persons who are severally charged with the duty of reporting the births, marriages and deaths that occur within their knowledge, and stating that refusal or neglect to make these reports, or any one of them within the specified time, will subject the person or persons so neglecting or refusing, to a penalty of twenty dollars and costs; and as a further means, the officers administering the Act in the different counties have been in-

structed to strictly enforce its provisions, and to prosecute all persons who fail to comply therewith.

The result is that information has been received from several District Registrars to the effect that the returns for 1873 will be largely in excess of those considered in the present report, and the Registrar-General is convinced that the returns for this year will be more comprehensive and shew a very marked improvement over any former year. In fact the District Registrar for the County of Simcoe, Mr. W. B. McVity, reports that the returns he has received for the six months ending 30th June, 1873, are equal to those received by him for the whole of the year 1872.

This result appears to have been arrived at without the exercise of any extraordinary vigilance on the part of the Division Registrars, as but few prosecutions have come to the knowledge of this Department, although many cases of neglect cannot but have been apparent to the Division Registrars.

Only one case has been reported where the full penalty was exacted from the defendant, and the prosecutor (the Division Registrar for Beverley) deserves commendation for his determination to discharge the duties devolving upon him by the Registration Act.

It was the intention of the late Registrar-General to introduce an Act during the coming session of the Legislature consolidating the present Act and amendments, and adding thereto certain provisions which the experience of the past three years has suggested as necessary to its satisfactory working—the two most prominent being the payment by the Government to the Division Registrars of a fee for each entry made, and the compelling of registration of particulars of deaths before interment; but the uncertainty that prevails as to whether the collection of vital statistics is to be performed under Dominion or Provincial auspices as well as the increase of expense that would necessarily be incurred if the proposed alterations and amendments for the Province are carried into effect, and the possibility that before the next report is submitted, the question of under whose care (whether Dominion or Provincial), the collection of vital statistics is to be undertaken will be definitely settled, determined the late Registrar-General to abandon his intention of introducing the proposed Bill. Though the results up to the present time are perhaps not as highly satisfactory as could be desired, still the work that has been accomplished under the present Act must certainly largely contribute in the future to the successful working and carrying out of the system contemplated by the Legislature.

All of which is respectfully submitted,

C. F. FRASER,
Registrar-General.

REPORT

UPON THE

SCHOOL OF PRACTICAL SCIENCE

FOR THE

YEAR ENDING 31st DECEMBER, 1873.

Presented to the Legislative Assembly by command of His Excellency the Lieutenant-Governor.

C. F. FRASER,
Secretary.

Provincial Secretary's Office,
Toronto, 14th January, 1874.

School of Practical Science,
Toronto, 10th January, 1874.

To the Honourable the Provincial Secretary.

Sir,—I have the honour to make the following Report of the School of Practical Science during the past year.

As at the time of my last report the School had only been in operation a few months, it may be advisable, on this occasion, to lay before you a concise account of what has been done since the classes were first formed.

In the spring of 1872 it was decided by the Government to inaugurate a series of evening classes in the building previously purchased from the Mechanics' Institute and intended for a School of Technology. The building had been partially fitted up for that purpose, according to a plan in the possession of the Department of Public Works, but the arrangements were not yet completed. A room in the basement was designed for a Metallurgical Laboratory, and had been supplied with furnaces, and with a large apparatus intended for the distillation of water.

The draught for the furnaces in this apartment is very poor, and there is absolutely no satisfactory means of ventilation. On the ground floor, the room formerly used as a lecture room had been prepared for a Chemical Laboratory, and furnished with suitable tables for the practical instruction of a large class of working students. Rooms on the second and third floors had been assigned to the use of drawing classes, and supplied with desks and tables for that purpose. Other rooms were intended for class rooms for mechanics and natural philosophy, but nothing had been done to them.

The Mechanics' Institute still occupied a portion of the ground floor, comprising a reading-room, library and board-room. On taking possession of the building for the evening classes, it was found that these rooms would not be in immediate requisition for the use of the School, and accordingly, the Mechanics' Institute were allowed to retain them, and are still in possession of this part of the building. The Music Hall, except for a short time, has

not been applied to any purpose connected with the School, and has been let as usual for public entertainments.

It was decided to begin with lectures on mechanical and architectural drawing, natural philosophy and chemistry. Tickets for admission to the classes were furnished to all who applied for them, without fee. The classes were opened on the 6th of May, 1872. Instruction was given in drawing by W. Armstrong, Esq., C. E., in natural philosophy by J. Loudon, M.A., and in chemistry by myself.

A very large number of applications for tickets was received, chiefly from working men, and the classes were at once filled up. In drawing, the number of applicants was so great, that the rooms designed for that purpose were found too small for the requirements of the pupils, and tables had to be fitted up in the Music Hall for the accommodation of the class. In spite of this, however, a considerable number had to be refused from want of room. Subsequently, additional accommodation having been obtained in the original rooms, the class removed from the Music Hall to those apartments. During the first part of the year, many of those who had at the beginning of the term been admitted into the drawing class ceased to attend regularly, and their places were supplied by others, who, in many cases, had been refused previously on account of want of accommodation. Throughout the year the class continued as large as it was in the power of the Instructor to attend to.

The classes in chemistry and natural philosophy were also very well attended, and although many of those who obtained tickets for the courses dropped off after attending the first few lectures, a fair proportion of regular and painstaking students remained to the end.

The classes, it will be remembered, were without fees, and as the idea of evening lectures on scientific subjects for mechanics and others had the charm of novelty, many came as it was to be expected, out of mere curiosity, or to pass away an idle hour, these, after the novelty had worn off, and when they began to find that the classes required regular application and conscientious study, naturally ceased to attend, while those who came not from idle curisioty, but from an honest desire for improvement, and a determination to avail themselves of every opportunity of acquiring useful knowledge and mental training, continued to pursue their studies until the close of the term.

The number of students attending the school during 1872, was one hundred and eighty-one, of whom ninety-eight took drawing; ninety-one chemistry, and fifty natural philosophy.

During the parliamentary session of 1873, an Act was passed "to establish a School of Practical Science," and from that time the designation "School of Technology" has been dropped and the former title substituted. In other respects the classes have been carried on as before.

LECTURES.

Lectures have been given during the past year on each week evening, except Saturday, from eight to nine o'clock, from January 8th to June 6th, with the exception of a fortnight's vacation at Easter: and from October 10th to December 19th.

The subjects taught have been chemistry, with special reference to its application to the arts, natural philosophy (mechanics), and drawing applied to architecture, mechanics and engineering. An endeavour has been made to give to all the classes as much as possible of a practical character.

Lectures in natural philosophy were given during the months of January, February and March. The class numbered about fifty. The names, &c. of the students were given in the report for 1872.

ATTENDANCE.

The attendance at the classes during the year has been very good. The total number of students who obtained tickets is 129; of these 88 were admitted to the drawing class, and 54 to the chemistry class. The name, age, occupation, birthplace and residence of each student together with remark as to the regularity of his attendance at lectures, is given on another page.

It is gratifying to find that the class for whom these lectures are especially designed, are largely availing themselves of them. The following Table shews the occupations of those who attended the classes, and gives, under each, the number of students following it.

TABLE

Shewing the occupations of the students of the evening classes of the School of Practical Science, 1873.

Architects' Pupil	1	Printer	1
Blacksmith	1	Painter	1
Bricklayers	6	Patternmakers	2
Bookbinder	1	Reporters	2
Carpenters and Builders	46	Students	12
Clerks	8	Shoemaker	1
Coachbuilder	1	At school	3
Cabinetmaker	1	Scalemaker	1
Dentists	5	Teachers	2
Druggists	9	Tinsmiths	2
Engineer	1	Wood-turners	3
Engraver	1	Warehouseman	1
Fitters	4		129
Machinists	12		
Mason	1		

Another source of congratulation is to be found in the fact that the attendance during the past year has continued good from beginning to end. The falling off in the attendance after the first few lectures to which I have already alluded as having been noticed the year before, did not occur this year. Both in drawing and in chemistry the attendance at the last lecture was as large as, or even larger than, at the first. This, as an evidence that the working classes are fully awake to the advantages to be gained from the study of Practical Science, cannot fail to be looked upon as an encouraging indication.

EXAMINATIONS.

Examinations were held at Christmas, 1872, and at Easter and Midsummer, 1873, in the various branches taught during the term. To those who passed to the satisfaction of the examiners, and who had been regular in their attendance at the classes, certificates to that effect were given. The certificates in the drawing class were given on inspection of the work done during the term. In chemistry and natural philosophy (mechanics) written examinations were held. Attendance at these examinations was voluntary, and the number of students who availed themselves of them was not large. Taking into consideration, however, the fact that this examination was the first held, and that the great body of the students had that nervous dread of a written examination, which, however groundless, is so common among those who have never undergone such an ordeal, there is good reason for hoping that a much larger number of candidates will present themselves for the next examination.

The answers of those who did come up for examination, as well as the progress of the drawing pupils, were most satisfactory.

The following is a list of those who passed the examinations in Chemistry and in Mechanics, and of those who obtained certificates in Drawing.

EXAMINATIONS.

CHEMISTRY—CHRISTMAS.

Class I.

1. McAllister.
2. Clark.
4. Cathron.
5. McTaggert.
6. Ansley.

Class II.

1. Inglis. Ramsey.
3. Nevills.
4. Lewis.
5. Coleman.
6. Daniel. Robertson.
7. Armstrong.

MIDSUMMER.

Class I.

1. Cathron.
2. Armstrong.
3. McAlister.
4. McTaggert.

Class II.

1. Ramsey.
2. Daniel.

NATURAL PHILOSOPHY.

1. McTaggert.
2. Page. Strathairn
4. Butt.
5. Coleman.

DRAWING—ENGINEERING AND ARCHITECTURAL.

Class I.

Carré.
Mowat.
McTaggert.
Brotherston.
Townshend.
Wooster.
Callie.

Class II.

Gibson, A.
George.
Gibson, J.
Irvine, W.
Freeman.
Hewitt.
Irvine, J.
Churchill.
Currie.

MECHANICAL.

Class I.

Joslin.
Harcourt.

Class II.

Smith.
Haggert.

FREE HAND.

Class I.

Clare.
Ewart.

APPARATUS.

During the year, M. Loudon ordered a very complete set of apparatus for teaching experimental mechanics to be manufactured in Dublin. The order was executed in a very satisfactory manner and the apparatus is now in the possession of the School. It is specially adapted for the instruction of those employed in workshops and will be peculiarly appropriate for the teaching of the important branch of Applied Mechanics in connection with the contemplated department of engineering. This system of apparatus is, probably, the only one of the kind in use in America.

LIBRARY.

During the year the Library, which formerly belonged to the Board of Arts and Manufactures, has been kept open to the public on Tuesday evenings and on Saturday afternoons. The Library has always been very well attended on these occasions. It contains, besides a number of works chiefly in the various departments of applied science, a complete set of the Patent Reports of Great Britain, as well as those of Canada. A number of scientific periodicals are also taken. The binding of the Patent Report has unavoidably entailed considerable expense. A fresh supply of these Reports has lately arrived and will need binding. The various periodicals for the year, also, ought to be bound. In view of the great value of this Library as a place of reference to those engaged in manufactures, and to all interested in arts or inventions, it would be very desirable that a grant should be made to the School for the purpose of keeping up and extending this Library. This Library has been under the charge of Mr. Thomas Heys. A few recent scientific books have been added to it during the year.

GEOLOGICAL COLLECTION.

By a clause in the "Act to establish a School of Practical Science," it was provided that specimens of the ores, minerals and other products of any mine now being worked in this Province shall, on request, be furnished by the respective owners of such mines for the School of Practical Science.

It is unnecessary to allude to the great importance in an institution of this kind, of a thoroughly good geological and mineralogical collection. During the past summer a foundation has been laid for such a collection.

In order to take advantage of the clause in the Act above alluded to, I visited, during last August, most of the mines now being worked on the North Shore of Lake Superior, and obtained from them specimens of the ores and minerals which they contain, and of the associated rocks forming the walls of the veins, or occurring in the neighbourhood of the mines.

From Silver Islet I obtained specimens of native silver, galena, iron pyrites, graphite, calcite, quartz (from the vein), diorite (from the wall rock), serpentine, slate, sandstone and conglomerate.

From 3 A mine were obtained specimens of the vein and wall rock (Huronian slate), coppernickel, with silver glance and native silver, crystallized quartz and serpentine; from the Singleton vein, quartz, graphite, &c.; from the Silver Harbour mine, silver ore, quartz from the vein, and banded siliceous slate from the wall-rock; and from the Thunder Bay mine a specimen of the ore. From the Shuniah mine were procured crystallized quartz, calc-spar, dog-tooth spar, fluor spar, jasper, galena, zinc blende and silver ore; and from the Cornish mine, zinc blende, galena, silver ore, calc spar and Huronian slate.

Specimens of gold and silver ores were also obtained from Shebandowan, and from the Pic. Through the kindness of Captain Frue, of Silver Islet, I was able to obtain some very fine specimens of conglomerate with native copper from Isle Royale. I also obtained from the neighbourhood of Silver Lake beautiful specimens of hæmatite polished by glacial action, copper pyrites and carbonate of copper, galena and zinc blende. From Blende Lake were procured very fine specimens of zinc blende and of arragonite; and from the Slate Islands trap, ferruginous trap, Huronian slate, amygd aloid and jasper. Specimens of granite, syenite, calcite, Iceland spar, dogtooth spar, copper pyrites, graphite, malybdenite, amethysts, phrenite, diorite, &c., were obtained from various localities.

My assistant, Mr. Heys, visited for a similar purpose the mines of Marmora, and obtained specimens of magnetic iron ore from the Marmora Iron mine, with specimens of wall rock, &c.; from the Forsyth mine (Hull Township); from the Matthews' mine (South Crosby); from Chaffey's mine (South Crosby); from Bedford Township, and from Lake Champlain. He also obtained mispickel containing gold, with specimens of talcose slate, &c., from the wall rock, from the Gatling Gold and Silver Mining Company; also, from W. H. Campbell and C. J. Bromfield's mine, and from the Dean and Williams mine, Marmora. He also obtained from Messrs. Chaffey and Son, and from Mr. Carruthers, Kingston, specimens of apatite from South Crosby, and Loughborough and of mica from South Crosby.

We have invariably met with the utmost courtesy from all persons connected with the mines, and found them ready to assist us by any means in their power.

A small but valuable collection has also been obtained from Peter McKellar, Esq., of Fort William, and several specimens have been presented by Dr. Clarke, M.P.P.

A valuable collection of Devonian corals has also been presented to the School by Professor Nicholson.

Subjoined is a list of the names, age, birth-place, occupation, and residence of each student now attending the School or who has been admitted during the past year, with the classes which he attended, and remarks as to the regularity of his attendance. (Appendix A.)

A table shewing the classes instituted, the instructors and assistants, and the number of students attending each is also given. (Appendix B.)

I have the honour to be, sir,

Your most obedient servant,

W. W. Ellis.

APPENDIX A.

List of Students attending School of Practical Science, 1873-4.

NAME.	AGE.	BIRTH-PLACE.	OCCUPATION.	SUBJECTS TAKEN.	RESIDENCE.	ATTENDANCE.
Armstrong, C.	31	England	Wood turner	Chemistry	14 Pine street	Regular.
Arnot, P.	24	Canada	Carpenter	Drawing	424 King street west	do
Aikens, R.	25	do	do	do	Toronto	do
Adams, J. G.	35	do	do	do and Chemistry	35 Gerrard street	
Alexander, G.	24	do	do	do	Toronto	do
Barber, J. H.	16	do	Student	All the subjects	88 Adelaide street east	do
Brown, F.	17	do	Drug clerk	Chemistry	153 Simcoe street	Fair.
Barber, J.	19	Scotland	Carpenter	Drawing	121 Richmond st. east	Regular.
Bain, W.	18	Canada	do	do	339 Queen street east	Fair.
Barron, A.	26	Scotland	do	do	588 King street west	do
Bennett, A. H.	23	Canada	Dentist	do and Chemistry	Cooktown	
Brotherston, W.	20	do	Carpenter	do	Berkeley street	Regular.
Balfour, J.	20	do	do	do	Hamilton	
Brunskill, F.	16	do	Fitter	Natural Philosophy	47 Crookshank street	
Cowan, J. A.	23	Ireland	Clerk	All the subjects	303 Queen street west	
Cathron, R. L.	16	Canada	Student	Chemistry	163 Mutual street	Regular.
Carré, T. S.	29	England	Bricklayer	Drawing	106 Huron street	do
Collie, J.	23	Scotland	Carpenter	do	20 Richmond st. east	do
Cameron, J.	23	do	do	do	Major street	do
Churchill, J.	20	Canada	do	do	56 Bond street	do
Churchill, B.	17	do	do	do	56 Bond street	do
Collins, H. T.	27	Ireland	Printer	Chemistry	80 Wood street	
Chick, F.		Canada	Carpenter	Drawing	Toronto	do
Caldwell, J.	17	do	Bookbinder	do	102 Ontario street	do
Clare, J.	17	do	Engraver	do	Queen street west	do
Carr, D.	24	do	Coach builder	do	Ritchie's terrace	do
Corcoran, J.	20	do	Painter	Chemistry	Duchess street	
Douglass, R.	26	Ireland	Bricklayer	Drawing	59 Wm. Henry street	do
Daniell, D.	16	Canada	Drug clerk	Chemistry	131 King street east	do
Duncan, W.	20	do	Machinist	Drawing and Chemistry	45 Peter street	do
Dalglish, W.	23	Scotland	Mason	Drawing	588 King street west	Fair.
Desrrom, J. A.	15	Canada	Student	Chemistry	Jarvis street	Regular.
Dixon, J. H.	20	do	Clerk	do	28 Gerrard street	
De Foe, J. W.	34	do	Teacher	do	Belleville	

APPENDIX A.—*Continued.*

LIST OF STUDENTS ATTENDING SCHOOL OF PRACTICAL SCIENCE.

NAME.	AGE.	BIRTH-PLACE.	OCCUPATION.	OBJECTS TAKEN.	RESIDENCE.	ATTENDANCE.
Dows, C.	...	do	Bricklayer	Drawing	Toronto	Fair.
Dawson, S.	15	do	Student	do	179 Centre street	Regular.
Doyle, J.	26	do	Pattern maker	do	30 Power street	do
Fletcher, B.	26	do	Tinsmith	do and Chemistry	82 Magill street	
Fraser, R. A.	30	do	Clerk	Chemistry	51 Richmond st. east	do
Fletcher, R.	55	England	Teacher	do	14 Bond street	
Foster, J.	19	Canada	Carpenter	Drawing and Chemistry	110 Duke street	do
George, H. M.	16	do	Clerk	Drawing	79 Gould street	do
Gibson, J.	18	do	Gas-fitter	All the subjects	7 Mutual street	Fair.
Gibson, A.	19	do	do	do	do	Regular.
Gessive, G.	31	Scotland	Carpenter	Drawing	Major street	Fair.
Geddes, J.	28	England	do	do	28 Richmond street	Regular.
Gillman, J.	21	do	Painter	do	Toronto	do
Graves, T. W.	24	do	Bricklayer	do	Tecumseth street	do
Gerrie, G.	32	Canada	Carpenter	do	20 Richmond street east	do
Gibbard, T.	18	do	Drug clerk	Chemistry	106 Adelaide street	do
Gibbard, J.	30	do	do	do	do	Fair.
Hewitt, J.	15	do	Architect	Drawing	171 Gerrard street east	Fair.
Hoare, J.	31	England	Warehouseman	Chemistry	37 Pine street	
Hamilton, H. C.	15	Canada	Student	Chemistry and Natural Philosophy,	Princess street	Regular.
Harcourt, J.	21	do	Wood turner	Drawing	Niagara street	do
Hall, E.	23	do	Carpenter	do	223 St. Lawrence street	do
Hunt, W.	16	do	Drug clerk	Chemistry	98 Adelaide street	Fair.
Hartman, H. J.	20	do	Student	do	Aurora	do
Hoskin, J.	21	United States	Machinist	Drawing	28 Richmond street	Regular.
Irvine, W.	25	Canada	Carpenter	do	7 Caer Howell street	do
Irwin, H. J.	25	do	Bricklayer	do	103 Chesnut street	do
Jessiman, A.	24	Scotland	Carpenter	do	Major street	do
Jarvis, H.	22	England	do	do	382 Queen street west	do
Joslin, J. S.	21	Canada	Pattern maker	do	91 Alexander street	Fair.
Johnson, W.	20	do	Machinist	do	182 Parliament street	Regular.
Jesman, R.	15	Scotland	Carpenter	do	Major street	do

Johnson, J.	30	Ireland	do		Centre street	do
Johnson, W	18	Canada	Scale maker	do	do	do
Kingsberry, S.	24	Ireland	Carpenter	do	43 Maple street	Fair.
Kerr, T.	17	Canada	do	do	195 Niagara street	Regular.
Loeman, J.	19	do	Cabinet maker	do	74 Elm street	do
Loeman, B.	24	do	Bricklayer	do	do	
Landimore, W	20	England	Carpenter	do	215 Yonge street	Fair.
Levey, J.	15	Canada	Machinist	Chemistry	10 Gloucester street	Regular.
Lyons, J.	23	Ireland	do	Drawing	32 Hayter street	do
Mitchell, G.	24	Scotland	Carpenter	do	45 Peter street	do
Mahaffey, G.	18	Canada	Clerk	do	204 Teranley street	Fair.
Memilley, W.	15	Canada	Student	Drawing	50 Wellington street	Regular.
Munro, J.	13	do	Carpenter	do	4 St. Vincent street	do
Mitchell, J.	20	Scotland	do	do	Peter street	
Mitchell, T.	21	Canada	Drug clerk	Chemistry	82 Bond street	
Miller, P.	16	New York State	Student	do	232 King street west	do
Mallory, M. B.	29	Canada	Drug clerk	do	Napanee	Fair.
Milburne, W.	23	do	Carpenter	Drawing	Toronto	do
Miller, J.	14	United States	School	Chemistry	do	do
McSpadden, W.	24	Ireland	Carpenter	Drawing	32 Hayter street	Regular.
McDonell, J.	19	Canada	Government clerk	Chemistry	Parliament buildings	do
Noble, J.	21	do	Carpenter	All the subjects	23 Teranley street	Fair.
Patterson, J.	25	do	Machinist	Drawing	140 King street west	
Price, J. E.	28		Reporter	do and Chemistry	512 Yonge street	
Page, J. G.	26	England	Carpenter	do and Natural Philosophy	97 Parliament street	Regular.
Packham F.	27	do	do	do	43 Terauley street	Fair.
Ramsay, A.	21	Scotland	Shoe maker	Chemistry	138 Berkeley street	Regular.
Ritchie, F.	15	Canada	Fitter	Natural Philosophy	88 Mutual street	
Reid, S.	15	do	Clerk	do and Chemistry	84 Duke street	Fair.
Robins, H.	24	do	do	Chemistry and Drawing	127 Richmond st. west	Regular.
Riley, J.	32	Ireland	Carpenter	Drawing	123 University street	Fair.
Russell, W.	15	Canada	Student	Chemistry	22 Suffolk Place	Regular.
Solomon, S.	14	do	School	Chemistry	160 George street	
Shaw, A. K.	24	Scotland	Engineer	All the subjects	377 King street west	Fair.
Spring, J.	30	Canada	Carpenter	Drawing	2 Alice street	do
Stewart, C.	19	do	Machinist	do	Observatory	
Smith, J. D.	32	England	do	do	91 Teranley street	Regular.
Smith, T.	17		Carpenter	do	146 Shuter street	do
Scarff, C.	21	England	Drug clerk	Chemistry	175 Church street	do
Stowe, J.	41	do	Dentist	do	135 do	Fair.
Strathairn, G.	23	Canada	Tinsmith	do	Ritchie's Terrace	Regular.
Smith, T.	23	Scotland	Carpenter	Drawing	588 King street west	do
Townsend, B.	10	Canada	School	Chemistry	296 Jarvis street	do

APPENDIX A.—*Continued*

List of Students attending School of Practical Science.

NAME.	AGE.	BIRTH-PLACE.	OCCUPATION.	OBJECTS TAKEN.	RESIDENCE.	ATTENDANCE.
Tabraham, W. C.	26	England	Carpenter	Drawing	Yorkville	Fair.
Teskay, E. A.	25	Canada	Dentist	Chemistry	276 Yonge street	Regular.
Tewksberry, J. W.	26	do	Machinist	Drawing	33 Louisa street	Fair.
Townsend, C.	16	do	Student	Chemistry	296 Jarvis street	Regular.
Templeman, J. H.	16	do	Clerk	do and Drawing	101 Terauley street	Fair.
Wallace, J.	28	Scotland	Carpenter	Drawing	74 Richmond st. east	Fair.
Wooster, T.	18	England	do	do	2 Alice street	Regular.
Wells, J.	20	Canada	do	do	114 Brock street	Fair.
Wear, R. S.	30	Scotland	Reporter	do and Chemistry	228 Victoria street	
Williams, N.	16	England	Machinist	do	91 Terauley street	Regular.
Willcock, S.	20	Canada	do	do	131 Brock street	do
Whittier, O.	17	United States	Student	Chemistry	44 Bond street	do
Willson, R. A.	19	Canada	Scale maker	Drawing and Chemistry	26 Elm street	do
Willson, A.	23	do	Wood turner	do	146 Simcoe street	do
Wright, J.	17	England	Machinist	do	28 Denison Avenue	Fair.
Watts, W. F.	24	Canada	Carpenter	do	532 Yonge street	Regular.
Warren, W. W.	27	do	Dentist	Chemistry	Amherstburg	Fair.
Weagant, J.	21	do	do	do	248 Terauley street	
Wood, J.	21	do	Drug clerk	do	175 Church street	
Wood, W.	20	do	Student	do	do	

APPENDIX B.

CLASS.	INSTRUCTOR.	ASSISTANT.	NUMBER OF STUDENTS.
Drawing	W. Armstrong, C.E.	C. Armstrong	88
Natural Philosophy	J. Loudon, M.A.	T. Heys	50
Chemistry	W. H. Ellis, M.A., M.B.	T. Heys	54

RETURN

Of Correspondence and Papers relating to the "Toronto, Grey and Bruce Railway," subsequent to that printed in Sessional Papers of 1873.

By command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
Toronto, 8th January, 1874.

Schedule of Correspondence and Papers relating to the "Toronto, Grey and Bruce Railway."

1873.

March 13.—Letter from Assistant Provincial Secretary to Secretary of Company enclosing:
" 12.—Copy of Order in Council.
" 22.—Letter from W. H. Beatty to Hon. Provincial Treasurer, enclosing memorandum shewing all lots unsold and owned by Province of Ontario, in certain Townships.
June 18.—Letter from President of Company to Provincial Secretary.
" 28.—Letter from Assistant Provincial Secretary to President of Company.
July 4.—Letter from President of Company to Hon. Attorney General, enclosing:
June 28.—Financial statement as to Bruce Extension.
Financial Statement as to Grey Extension.
July 17.—Letter from Beatty, Chadwick & Lash to Provincial Secretary.
" 18.—Letter from Assistant Provincial Secretary, to Beatty, Chadwick & Lash.
" 19.—Letter from Beatty, Chadwick & Lash to Assistant Provincial Secretary.
Oct. 6.—Letter from Assistant Provincial Secretary to Beatty, Chadwick & Lash.
" 7.—Letter from Beatty, Chadwick & Lash to Assistant Provincial Secretary.
Nov. 21.—Letter from W. H. Beatty to Hon. Commissioner of Crown Lands.
Dec. 1.—Statement shewing the number of acres of unpatented lands in certain Townships.
" 18.—Petition from Municipal Council of the Township of Luther.
" 13.—Letter from Superintendent of Company to Philip & Son, Luther.
" 20.—Letter from President of Company to Provincial Secretary.
" 27.—Letter from Assistant Provincial Secretary, to President of Company.

1874.

Jan. 3.—Letter from President of Company to Provincial Secretary.
" 13.—Letter from Secretary of Company to Provincial Secretary.
" 14.—Letter from President of Company to Provincial Treasurer.
" 16.—Letter from Assistant Provincial Secretary to Mayor of Owen Sound.
" 22.—Letter from Secretary of Company to Provincial Treasurer, enclosing Financial Statement.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 13th March, 1873.

SIR,—I have the honour to transmit herewith a copy of an Order in Council, approved by His Excellency the Lieutenant-Governor, the 12th day of March, 1873, relating to the application of the "Toronto, Grey and Bruce Railway Company," for aid from the Railway Subsidy Fund.

I have the honour to be, Sir,
Your obedient servant,
I. R. ECKART,
Asst. Secretary.

W. Sutherland Taylor, Esq., Secretary,
Toronto, Grey & Bruce Railway Company, Toronto.

(Copy.)

Copy of an Order in Council approved by His Excellency the Lieutenant-Governor, the Twelfth day of March, A.D. 1873.

The Committee of Council have had under consideration the application of the "Toronto, Grey and Bruce Railway Company," and they advise, the former Order of the 26th March, 1872, being considered as lapsed as to the said Company, that subject to the ratification of this Order in Council by Resolution of the Legislative Assembly (in default of which ratification this Order in Council is inoperative) the payment which was by the said Order of the 26th March, 1872, authorized to be made out of the Railway Aid Fund to the said Company of a sum equal to $2,000 per mile for that portion of their railway between Harriston and Wingham, under the condition therein mentioned in favour of the "Wellington, Grey and Bruce Railway Company" be now made to the "Toronto, Grey and Bruce Railway Company" freed from such condition, and that the said last mentioned Company be entitled to receive payment at the mileage rate aforesaid, limited to the number of miles between Harriston and Wingham, for that portion of the said Company's railway which is between Harriston and Teeswater.

The Committee further advise that the said grant be subject to the following condition, namely: The Railway Company shall, before the first day of July next, furnish proof to the satisfaction of the Lieutenant-Governor in Council of the existence of a bona fide and sufficient contract for the completion of the works, exclusive of track-laying, on that portion of their railway extending from Harriston to Teeswater.

The Committee further advise that payment be authorized in respect of any portion of the Railway between Harriston and Teeswater (limited to the extent of the mileage distance between Harriston and Wingham) not less than twenty miles in length on the fulfilment of the conditions of the Act as to such portion.

Certified.
(Signed) J. G. SCOTT,
Clerk Executive Council, Ontario.

13th March, 1873.

TORONTO, GREY AND BRUCE RAILWAY,
SOLICITOR'S OFFICE, TORONTO, 22nd March, 1873.

Honourable ADAM CROOKS,
Provincial Treasurer.

DEAR SIR,—I have the honour to herewith enclose a memorandum, showing all the lots unsold and owned by the Province of Ontario (according to a return made 20th December, 1868), in those townships through and near which the line of the Toronto,

Grey and Bruce Railway passes, going north-west from Orangeville, there being a total of 52,248 acres. These lands were offered for sale by auction in 1866, at the instance of the Government of the late Province of Canada, and could not be sold at 10 cents per acre, and I am informed that since the survey and location of the Toronto, Grey and Bruce Railway considerable quantities have been sold at fair prices.

The above is exclusive of the immense quantity of land held by settlers in the same townships, on which only a very small instalment has been paid to the Crown, and, without doubt, the Toronto, Grey and Bruce Railway will have the effect of enabling the settlers on those lots to discharge their indebtedness to the Crown. I asked at the Crown Land Office to-day on what number of acres in the County of Grey the settlers were in arrear, and it was stated in round numbers at least 250,000 acres.

I am yours,
(Signed) W. H. BEATTY.

In the matter of application for aid on behalf of the Toronto, Grey and Bruce Railway Company.

MEMORANDUM of all the lots unsold and owned by the Province of Ontario, in those townships through and near which the line of the Toronto, Grey and Bruce Railway passes, going north-west from Orangeville, compiled from a Return made to an Address to the Lieutenant-Governor, praying for a Statement showing all the unsurveyed lands unsold and owned by the Province.

TOWNSHIP OF MELANCTHON.

Lots	236, 237, 238, 239, 240, 257, 267, 277, 278, 279, First Con. E.—T. S. Road, 68 acres each	680 a.
"	241, 242, 243, 244, 265, 266, 267, 268, 269, 276, 279, 3rd Con. S. W.—T. S. R., 68 acres each	748 a.
"	241, 242 243, 244, 245, 246, 247, 248, 249, 252, 253, 254, 257, 258, 265, 266, 269, 270, 271, 276, 279, 286, 287, 288, 4th Con. S. W.—T. S. R., 68 acres each	1632 a.
"	16, 17, 18, 21, 24. 25. 26, 28, 3rd Con. N. E.—T. S. R., 100 acres each	800 a.
"	9, 10, 12, 16, 17, 18, W ½ 19, 22, 23, 24, 25, 26, 27, 28, 30, 4th Con. N. E.—T. S. R. 100 acres each	1450 a.
"	14, 15, 16, 17, 18, 19, 22, 23, 25, 26, 30, 34, 38, 39, 5th Con. N. E.—T. S. R. 100 acres each	1400 a.
"	13, 14, 15, 16, 17, 18, 19, 22, 24, 27, 28, 29, 6th Con. N. E.—T. S. R.—100 acres each	1200 a.
"	13, 14, 15, 16, 17, 19, 20, 21, 22, 25, 27, 34, 7th Con. N. E.—T. S. R. 100 acres each	1200 a.
"	21, 30, 31, 8th Con. N. E.—T. S. R. 100 acres each	300 a.
"	24, 28, 9th Con. N. E.—T. S. R. 100 acres each	200 a.
Lots	301, 302, 303, 304, 2nd Con. S.W.—T. S. R.	650 a.
"	7, 8, 9, 10, 13, 14, 15, 16, 17, 20, 25, 26, 27, 29, 30, 5th, Con. S.W.—T. S. R., 100 acres each	1500 a.
"	8, 9, 10, 13, 14, 17, 18, 19, 20, 6th Con. S.W.—T. S. R., 100 acres each	900 a.
"	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 7th Con. S.W.—T. S. R. 100 acres each	1700 a.
"	8, 9, 10, 13, 14, 15, 16, 17, 20, 8th Con. S.W.—T. S. R., 100 acres each.	950 a.
"	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 9th Con. S.W.—T. S. R., 100 acres each	1600 a.
"	10, 11, 13, 14, 10th Con. S.W.—T. S. R., 100 acres each	400 a.

TOWNSHIP OF OSPREY.

Lots	31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 47, 66, 67, 68, 69 70, 1st Range, N. D. & C., 50 acres each	1000 a.

"	33, 44, 46, 47, 48, 49, 51, 75, 76, 2nd Con. N. D. R., 50 acres each	450 a.
"	29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 69, 70, 1st Con. S. D. R., 50 acres each	650 a.
"	23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 63, 2nd Con. S. D. R., 50 acres each	1150 a.
"	7, 22, 23, 24, 25, 26, 27, 28, 29, 31, 34, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 3rd Con. S. D. R., 80 acres each	1680 a.
"	39, 40, 41, 42, 43, 44, 74, 3rd Con. N. D. R., 50 acres each	350 a.
"	37, 4th Con., 100 acres	100 a.
"	1, 2, 28, 10th Con., 100 acres each	300 a
"	2, 7, 14th Con., 100 acres each	200 a.
"	S. ½ 6, 14, N. ½ 15, Lot 5, Con. A., 120 acres each	300 a.
		22890 a.

TOWNSHIP OF PROTON.

Lots	193, 194. 195, 208, 218, 3rd Con. W.—T. S. R. 50 acres each	250 a.
"	216, 217, 225, 226, 232, 235, 236, 239, 240, 4th Con. W.— T. S. R. 50 acres each	450 a.
"	6, 8, 11, 12, 23, 24, 28, 29, 30, 34, 42, 1st Con. 100 acres each	1100 a.
"	5, 10, 23, 28, 29, 30, 33, 34, 40, 42, 2nd Con. 100 acres each	1000 a.
"	10, 19, 27, 32, 33, 34, 35, 38, 42, 3rd Con. 100 acres each	900 a.
"	6, 27, 31, 32, 35, 39, 40, 4th Con. 100 acres each	700 a.
"	5, 9, 16, 17, 19, 20, 26, 28, 31, 35, 36, 39, 40, 42, 5th Con. 100 acres each	1400 a.
"	7, 8, 10, 21, 30, 32, 38, 39, 40, 6th Con. 100 acres each	900 a.
"	2, 3, 8, 12, 13, 7th Con. 99 acres each	495 a.
"	4, 7, 8, 11, 13, 18, 28, 30, 36, 37, 38, 40, 8th Con. 100 acres each	1200 a.
"	5, 11, 13, 15, 18, 37, 40, 41, 42, 9th Con. 99 acres each	990 a.
"	2, 3, 10, 11, 15, 17, 10th Con. 99 acres each	594 a.
"	1, 2, 3, 7, 10, 11, 13, 22, 33, 41, 42, 11th Con. 99 acres each	1089 a.
"	7, 9, 10, 15, 22, 23, 27, 12th Con. 100 acres each	700 a.
"	5, 8, 11, 19, 27, 30, 31, 13th Con. 100 acres each	700 a.
"	2, 7, 10, 21, 36, 14th Con. 100 acres each	500 a.
"	21, 15th Con. 100 acres each	100 a.
"	2, 7, 9, 15, 16, 21, 22, 29, 16th Con. 100 acres each	400 a.
"	2, 5, 11, 15, 18, 19, 20, 22, 24, 26, 17th Con. 100 acres each	1000 a.
"	2, 6, 10, 12, 14, 15, 21, 22, 23, 24, 25, 18th Con. 100 acres each	1100 a.
"	A 1, 2, 5, 6, 15, 16, 17, 19, 21, 22, 23, 24, 25, 19th Con. 120 acres each	1680 a.

TOWNSHIP OF ARTEMESIA.

Lots	124, 125, 186, 187, 188, 189, 190, 3rd Con. W.—T. S. Road, 50 acres each	350 a.
"	123, 3rd Con. E.—T. S. Road, 50 acres each	50 a.
"	26, 27, 28, 29, 31, 34. 35, 38, 39, 40, 3rd Con. S. D. Road, 80 acres each	800 a.
"	14 and 15, 3rd Con. N. D. Road, 80 acres each	160 a.
"	1, 8th Con. 100 acres	100 a.
"	1, 9th Con. 100 acres	100 a.
"	32, 33, 10th Con.	200 a.
"	38, 12th Con. 100 acres	100 a.
"	25, 28, 29, 14th Con. 100 acres	100 a.

TOWNSHIP OF LUTHER.

Lots	4, 8, 23, 21, 20, N½ 22, 5th Con. 200 acres each	1160 a.
"	E½ 2, 8th Con. 200 acres	100 a.
"	17, 18, 9th Con. 200 acres each	400 a.
"	N½ 18, Lot 19, W½ 28, 10th Con. 200 acres each	400 a.
"	19, 11th Con. 200 acres each	200 a.

"	10, 22, 12th Con. 200 acres each	400 a.
"	13, 23, 13th Con. 200 acres each	400 a.
"	24, 29, 14th Con. 200 acres each	400 a.

TOWNSHIP OF AMARANTH.

Lots	W½ 20, 2nd Con. 100 acres	100 a.
"	2, 22, E½ 31, E½ 32, 6th Con. 200 acres each	600 a.
"	W½ 18, Lot 25, 7th Con. 200 acres each	300 a.
"	29, 9th Con.	200 a.
"	30, 10th Con.	200 a.

TOWNSHIP OF GLENELG.

Lot	15, 3rd R.—E. G. R	100 a.
"	11, 12, 15, 16, 23, 24, 25.—3rd Range N. D. R	350 a.
"	4, 8, 15.—1st Range S. D.R	150 a.
"	21, 1st Range, N. D. R	50 a.
"	19, 2nd Range N. D. R	50 a.
"	21, 8th con	100 a.
"	1, 7, 12, 13, 20, 12th Con	500 a.
"	12,13, 13th Con	200 a.
"	15, 16, 17,15th Con	300 a.

TOWNSHIP OF HOLLAND.

Lots	21, 24, 25, 33, 44, 45, 1st Con. E—T. S. R., 50 acres each	300 a.
"	25, 47, 48, 49, 50, 3 Con. E.—T. S. R., 50 acres each	250 a.
"	27, 4th Con.	200 a.
"	22, 5th Con	200 a.
"	N. ½ 7 E ½ 2, 9th Con., 200 acres each	200 a.

TOWNSHIP OF SULLIVAN.

Lots	S ½ 24, N ½ 27, 3rd Con., 200 acres each	200 a.
"	E ½ 15, Lot 13, 5th Con., 200 acres each	300 a.
"	S ½ 2, 4, 6th Con. 200 acres each	200 a.
"	N ½ 26.—Lots 23, 27, 17, 6th Con., 200 acres each	700 a.
"	S½ 7, W½ 18, 8th Con., 200 acres each	200 a.
"	26, 10th Con., 200 acres each	200 a.

TOWNSHIP OF DERBY

Lot	N ½ 15, 7th Con. 200 acres each	100 a.

TOWNSHIP OF SYDENHAM.

Lot	E ½ 11, 7th Con	100 a.
"	E ½ 1, 8th Con	100 a.
'	N ½ 3, Lot 4, 10th Con., 200 acres each	300 a.
		52,248 a.

It is stated at the Crown Land Department that on at least 250,000 acres in the County of Grey there are large amounts due the Crown from settlers for arrears

Toronto, 24th March, 1873.

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
PRESIDENT'S OFFICE, TORONTO, 18th June, 1873.

Hon. T. B. PARDEE,
Provincial Secretary of Ontario.

SIR,—The Board of Directors of this Company being desirous of affording the Government further information in regard to the petition of the Company for further aid on that portion of the line from Orangeville to Owen Sound, which was forwarded to you on 7th March last, I have the honour to request that you will kindly inform me if the Government will grant the Board of Directors an interview at an early day, say, if convenient, this week, or in the early part of next, as the settlement of this matter is of urgent importance to the Company.

I am, Sir,
Yours truly,
(Signed) JNO. GORDON,
President.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 28th June, 1873.

SIR,—With reference to your communication of 18th instant, I am directed to inform you that some of the members of the Government will be prepared to meet the Directors of the "Toronto, Grey and Bruce Railway," at the Attorney-General's Office, on Monday morning, 30th instant, at 11 o'clock.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant Secretary

John Gordon, Esq.,
President, Toronto, Grey and Bruce Railway Company,
Toronto.

(Copy.)

TORONTO, 4th July, 1873.

Hon. OLIVER MOWAT,
Attorney-General for Ontario.

SIR,—In accordance with your request on Monday last, I beg leave to transmit to you herewith a financial statement, showing the present position of affairs relating to the Grey extension of the Toronto, Grey and Bruce Railway from Orangeville to Owen Sound, and showing how materially the cost of construction has been increased, setting out in detail the different items. Iron was contracted for in June, 1871. Contracts for construction were entered into with Messrs. Shanly and McKenzie & Co., in September, 1871; locomotives were contracted for on 4th January, 1872, to be delivered in April and May following. All of which was based upon the expectation that $3,000 per mile would be received from the Government on the Grey extension, the Order in Council giving $2,000 being passed 2nd March, 1872.

Notwithstanding the grant of only $2,000 per mile, the Board, as business men, believed it best to proceed actively with the work, in the faith that an Order in Council would be passed authorising $1,000 per mile additional, the Board having no doubt upon the strength of their case that their original moderate demand would yet be complied with, and for the following reasons:—(1.) The line being a trunk one, running from Toronto to Owen Sound directly across the peninsula, dividing the territory, and crossing no other railway, and being an average of twenty-five miles distant from any other line. (2.) The territory, although of a poor character, was more or less settled throughout, and required a railway, this being the most direct and advantageous scheme for the require-

ments of the district. (3.) Nearly half the distance the works being of a heavy character, and the line requiring to be lengthened three miles, in order to get into Owen Sound. (4.) The people of the county having contributed to the utmost of their power to build the line. (5.) A large quantity of lands on which only one instalment had been paid to the Government, the total amount owing to the Government being very large, and of which, without a railway, the settlers would be totally unable to pay any part. Also, that there were still owned by the Government in the County of Grey, at the time the railway was commenced, some 70,000 acres ; these lands were offered for sale a short time before, and no one would buy, even at 10 cents per acre, while I am credibly informed that a large quantity of the same lands have, since the commencement of the railway, been sold by the Government at fair prices. The Company have paid to the settlers along the line some $500,000 for right of way, labour and materials; of this sum a great portion has, no doubt, found its way into the Government chest. (6.) That from the advantages afforded by the railway, draining swamp lands, &c., &c., quantities of Crown Lands and other lands, otherwise of little or no value, are rendered capable of being brought into cultivation, and no doubt will prove a source of wealth to the country. These lands also are likely in the course of time, through drainage, to become pasture lands equal to any in the Province. (7.) That the inhabitants of the County of Grey have borne their share of the taxes, occasioned by the heavy subsidies to other roads from which they reap no advantage. No other county in the Western Peninsula has been so long unprovided for, and in the same position. (8.) I have no desire to draw comparisons with other lines, but I hold that this section should not be put in a similar position with other lines similarly subsidized, which start from stations on old lines, and in their course cross several other railways, and which practically traverse little or no undeveloped territory. Also, that a portion of another line has been subsidised to the extent of $3,000 per mile, the country through which it passes, not being as much in the want of railway accommodation as part of the County of Grey. I refer to that part of the Toronto and Nipissing Railway, running through the Township of Bexley, and on reference to the map of the Province of Ontario, I feel that you will concur with me. (9.) That even if the $1,000 per mile now sought be granted, this section of the railway will still have a large floating debt which the Company will require to carry and make the best provision for that they can. (10.) It is submitted that the Government cannot lay down a general rule, but must take up each case on its own merits, and do that which is for the most general good ; that a poor section of the country ought not to be left without aid, when it can be shewn that a small expenditure can make it productive. (11.) Without the aid referred to the Company certainly never would have undertaken the construction of this section of the line, but once having embarked in the enterprise, as business men, they felt it imperative upon them not to abandon it if by any means they could carry it out, and they believe that they have acted in the best interest of all concerned by pushing boldly on, relying in good faith that the Government would do what was asked, and enable the Company to carry out their engagements which were made on the basis of $3,000 a mile subsidy. I desire to call your attention to the Petition handed to the Provincial Secretary in March last, which contains other facts not here referred to, and request you to refer to it. As to the Bruce extension, Mount Forest to Teeswater, I also enclose a financial statement shewing causes leading to a state of affairs different from that existing some time ago. The By-laws in aid of this section were passed in November, 1871, and contracts could have been let at an early date by which a large saving of about $50,000 could have been made, had the Company not been delayed in consequence of the Order in Council leaving it open until June, 1872, for the Wellington, Grey and Bruce Railway Company to decide, whether they would accept running powers over our line. This Company did not get notice that the Wellington, Grey and Bruce Company would not accept the proposed arrangement until some time in June, thereby causing great delay and loss as above stated. The Board, however, let the contract as early as possible, and are now actively prosecuting the work, the grading being nearly completed to Teeswater; and on this section we only claim the minimum amount $2,000 per mile, but consider ourselves fairly entitled to the subsidy for the full mileage, which the Order in Council does not cover. And I regret to say, that no matter how unfortunate it may be to the

interests of the people along this Bruce branch and of the Company itself, the Directors will be compelled to suspend all work on it, unless the aid of $1,000 per mile on the Grey extension now sought is obtained. The concentration of all the Company's energies on the Grey extension being imperative in order to get that portion of the line in running order as they are bound in $5,000 per month liquidated damages to open in August to Owen Sound. The consequences which may result from this course can hardly be estimated, and will no doubt seriously affect not only this but also all other undertakings of a similar character, and throw a cloud over all railway enterprise in this Province.

The unfortunate death of Mr. Shedden, the Company' principal contractor, compels me to ask as early a consideration of this matter as you may find convenient.

In conclusion, I may remark this Company was formed in the dark days of railway enterprise, and was the first to command a respectable and bona fide Canadian proprietary, and that certainly not for aggressive purposes or for competition for territory held by existing lines, but to supply a great want in the North-western Counties: how far they may have been successful a very few months will tell; however, their own private capital invested in it, if not forever gone, must remain unproductive for many a day. But the Company are less solicitous on this account than that their promises to the various municipalities should be honourably kept, and to show to the world that a Canadian enterprise projected and controlled by business men, can be brought to a successful issue.

To verify the various statements here produced and to shew that the utmost economy and prudence have been observed in the Company's undertakings, their books are open to the inspection of any duly qualified Officer the Government may appoint.

I have the honour to be, Sir,
Your obedient servant,

JNO. GORDON,
Prest. T. G. & B. R. Co.

[A small plan, showing the position of the whole line, will be sent to you for reference.]

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
SECRETARY AND TREASURER'S OFFICE,
TORONTO, 28th June, 1873.

Bruce extension as being constructed, 1873.			
Bruce contract as let now			$448,550
Present assets.			
Bonuses received	$103,000		
Loss on sale	10,300		
Amount realized		$92,700	
Government Bonus granted		62,000	
Stock available		60,000	
Total		$214,700	
Bonds on the same		$214,700	
less 15 per cent discount		32,205	
			182,495
			$397,195
Deficiency at the present time without providing any rolling stock			$51,355

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY.

Grey Extension.

Estimated cost as per schedule.			
No. 3 Sessional papers, 71–72, No. 29			$1,088,000
Add 9 month's interest loss by not having line opened in December 1872, caused by strikes in England preventing delivery of locomotives			36,000
Add for increased prices in material and rolling-stock since estimate			20,000
Total cost			$1,144,000
FUNDS AVAILABLE.			
Bonuses	$300,000		
Stock, proportion to Grey	90,000		
Government Bonus, 68 miles, $3,000 per mile	204,000		
		$594,000	
Bonds on above	$594,000		
Less 15 per cent discount	89,100		
		504,900	
		$1,098,900	
Deduct Loss on stock not collectable	$30,000		
Luther Bonus not paid	15,000		
Deducted from Gov. Bonus	68,000		
	$113,000		
Bonds on same, less discount	96,050		
		209,050	
			$889,850
Deficiency			$254,150

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY.

SOLICITOR'S OFFICE, TORONTO, 17th July, 1873.

Hon. T. B. PARDEE,
Provincial Secretary, Toronto.

SIR,—On 14th January last, we sent your contract, Robinson *et al* and the Toronto, Grey and Bruce Railway Company, for construction of a section of the line in Huron and Bruce: and also the Sureties' Bond therewith (Kilgour *et al.*). Will you be good enough to have them returned to us, as the Company will frequently require to refer to them.

We are Sir, yours,

(Signed) BEATTY, CHADWICK AND LASH.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 18th July, 1873.

SIR,—In reply to your letter of the 17th inst., I have the honour to transmit herewith the copy of contract between Thomas and John Robinson and the Toronto, Grey and Bruce Railway Company for the construction of that section of the said Railway, extending from Wroxeter to Teeswater, the receipt of which you will be good enough to acknowledge.

I have the honour to be, Sir,
Your Obedient Servant,
I. R. ECKART,
Assistant Secretary.

Messrs. Beatty, Chadwick and Lash,
Barristers, &c., Toronto.

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 19th July, 1873.

I. R. ECKART, Esq.,
Assistant Provincial Secretary, Toronto.

SIR,—We are in receipt of yours of 18th instant, enclosing copy of contract, Robinson and the "Toronto, Grey and Bruce Railway Company," with copy of Sureties' Bond.

These papers, however, we return herewith, as they are the property of your department. It is the original documents which we wish to have, and which please have sent to us, and oblige

Yours truly,
(Signed) BEATTY, CHADWICK & LASH.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 6th October, 1873.

SIR,—With reference to your letter of the 19th July last, I have the honour to transmit herewith the contract, and a copy thereof, between Thomas and John Robinson and the "Toronto, Grey and Bruce Railway Company, for the construction of that section of the said railway extending from Wroxeter to Teeswater.

You will be good enough to return the copy of the contract duly certified to this department, at your earliest convenience.

I have the honour to be, Sir,
Your obedient Servant,
(Signed) I. R. ECKART,
Assistant Secretary.

Messrs. Beatty, Chadwick & Lash,
Barristers, &c., Toronto.

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 7th October, 1873.

I. R. ECKART, Esq.,
Assistant Provincial Secretary,
Toronto.

SIR,—In reply to yours of 6th instant, 918, '72, we herewith return you copy of contract, Thomas Robinson and John Robinson to the "Toronto, Grey and Bruce Railway

Company," dated 9th January, 1873, and Bond (copy) of same date, Robert Kilgour and Alexander Meiklejohn to the T. G. & B. Railway Co., both duly certified, as you request, by a Notary Public.

We are, Sir,
Yours, &c.,
(Signed) BEATTY, CHADWICK & LASH.

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 21st November, 1873.

Hon. R. W. SCOTT,
Commissioner Crown Lands.

DEAR SIR,—As instructed by you yesterday, I write in reference to the townships the "Toronto, Grey and Bruce Railway" traverses from Orangeville, namely: Amaranth and Luther, in the County of Wellington; Melancthon, Proton, Artemesia, Glenelg, Holland, Derby and Sydenham, and adjoining townships of Osprey, Euphrasia, Sullivan, Derby, Sarawak and Keppel in the County of Grey, all very sparsely settled and having, at the time the railway line was located, in 1871, about 70,000 acres still in the Crown, as shown by a return made in 1869, copy of which no doubt you have in your office. These lands were offered in 1866 at 10c. per acre, and no bids could then be got, as the lands were not worth anything in consequence of being so distant from railways, and no market within reach for produce. These lands, to a great extent, have been, as I am informed, taken up by settlers from the Government, at prices ranging from $1 per acre upwards. Besides these unsold lands there was an immense quantity of lands which had been taken up by settlers who had, years ago, only paid the first instalment, and allowed the principal and interest to remain unpaid. This railway has, and will for the future, enable these settlers to pay up for these lands, both principal and interest.

To show how lands have been benefitted, I take the liberty of stating the result of two cases which came under my own observation: George Moffatt, Esq., of Montreal, held 200 acres in Luther, and 200 acres in Amaranth; these were valued, the Luther at $1 per acre, and the Amaranth at $1.50 per acre, in 1870, and I sold them for him, the Amaranth lot in December, 1871, shortly after the men had got to work on the Grey extension from Orangeville to Owen Sound, at $10 per acre, and this fall the Luther for $7.50 per acre. These facts show what an immense advantage the construction of this road has been to that large section of country which it serves. And if not taking up too much of your valuable time, I would ask you to read the enclosed copy of a letter sent to the Hon. Attorney-General Mowat in July last on same subject.

I am yours,
(Signed) W. H. BEATTY.

MEMO: For letter referred to, see letter addressed to Hon. O. Mowat, under date 4th July, 1873.

(Copy.)

STATEMENT showing the number of acres of unpatented lands in the following townships:—

Amaranth	13,550	acres.
Luther	35,550	"
Melancthon	28,480	"
Proton	51,200	"
Egremont	29,400	"
Osprey	28,050	"
Artemesia	20,290	"
Glenelg	24,300	"
Euphrasia	6,450	"
Holland	23,300	"

Sullivan	26,700	"
Sydenham	12,350	"
Derby	7,200	"

The sale of the Crown Lands in the above named Townships has been much stimulated by the construction of the "Toronto, Grey and Bruce Railway," and arrears have no doubt been (and are now being) collected, that would otherwise have accumulated to an amount in excess of the value of the lands. It can therefore be assumed as a fact that the construction of that road has largely benefited the Crown Properties.

(Signed) R. W. Scott.

December 1st, 1873.

(Copy.)

To the Honourable the Lieutenant-Governor of the Province of Ontario in Council Assembled.

The Petition of the Municipal Council of the Township of Luther, in the County of Wellington,

Humbly Sheweth:

That your Petitioners have learned that the Toronto, Grey and Bruce Railway Company are applying for an additional grant or bonus per mile from the Province of Ontario.

That the said railway runs through the southerly portion of the said township, and has ample facilities for carrying away from a station or stations in the township, if the same were established, the products of the said township, consisting of the products of the soil, and of timber, of both of which there is a large quantity.

That the management of the said railway has persistently refused to grant any facilities for the transportation of anything grown in the said township, even if offered for carriage at a station outside of the said township.

That the inhabitants of the said township are desirous of using the said railway for the purpose of transporting the products aforesaid to the proper markets, and have a large quantity of such products ready for shipment, but the authorities of the said railway refuse to carry the same. That by their Charter the said Railway Company are compelled to carry cordwood from all stations on their line on certain terms; but there is no provision compelling them to provide ground for piling such cordwood, so that, in fact, the said Company are enabled to evade and do evade compliance with the intention of the Legislature in respect of the carrying of such cordwood.

That it would cause an immense amount of litigation, and that subject to technicalities, which the said railway would avail itself of, to take steps to compel the said railway to perform their duty as common carriers, and such a course being open only to individuals practically affords no remedy for the grievances under which the inhabitants of the said township now suffer.

That the said railway has already received large benefits from the Province, and consequently from the said township, and your Petitioners desire to protest, and do protest, against their receiving further aid from the said Province until they redress the grievances aforesaid.

Your Petitioners, therefore, humbly pray that no further aid be granted or recommended by the Province of Ontario to the said railway, except upon the condition that the said railway shall reverse their past policy as regards the carrying of products grown in the Township of Luther, and shall grant proper facilities for the transportation thereof to the appropriate markets on their line of road, and shall also be compelled to provide suitable lands adjacent to stations for piling cordwood, ties and other timber.

And your Petitioners, as in duty bound, will ever pray.

Township of Luther, (Signed) Neil McArthur,
the 18th day of December, A.D. 1873. *Township Clerk.*

L. S.] (Signed) William Dawson,
Reeve.

(Copy.)

TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 13th December, 1873.

DEAR SIR,—The Company has decided not to carry lumber or anything else grown in the Township of Luther, for obvious reasons.

Yours truly,
(Signed) N. WEATHERSTON.

Messrs. Philip & Son,
Luther.

(Copy.)

TORONTO, 20th December, 1873.

To the Honourable
The Provincial Secretary of Ontario.

SIR,—In accordance with a suggestion from the Hon. the Provincial Treasurer, at an interview held with him on the subject of the following application, I beg to submit for the consideration of the Government, the reasons why in the opinion of the Directors of the Toronto, Grey and Bruce Railway Company, that Company is now entitled to aid from the Government on that section of their line from Toronto to Orangeville.

At the date of the passing of the Railway Aid Act, contracts for the construction of the line between Weston and Orangeville had been let. In consequence it was thought as the Directors believed the contracts would be carried out that that portion of the line did not come within the meaning of the second section of the Railway Aid Act. Accordingly no application for aid on that section was then made. Subsequently to the date of the Company's petition, however, existing contracts were broken and portions of the line which had been under contract failed to be constructed, and thereby the Directors contend that the Company was placed in the same position as the Port Whitby and Port Perry Railway Company, and legally with regard to the Toronto and Orangeville section in the same position as between Orangeville and Arthur, or as the Toronto and Nipissing Railway Company (see case McRae *v* Toronto and Nipissing Railway Company). The line between Weston and Orangeville has been completed entirely by the Company's share, and borrowed capital and bonuses from Municipalities. Between Toronto and Weston it has not yet been commenced.

The company made an agreement with the Grand Trunk Railway Company, to run over their line from Toronto to Weston. They have now found out that the traffic cannot be carried as originally expected. It was supposed that the Grand Trunk Railway Company would have built a double line from Toronto to Weston.

This has not been done, and the enormous traffic upon the Grand Trunk makes it impossible for both Companies to use a single line and accommodate the public.

The agreement between the two Companies being a specially favourable one for the Toronto, Grey and Bruce Railway Company, but liable to a termination upon notice, and which may possibly be acted upon, for although the Grand Trunk Railway Company have facilitated the operations of the Toronto, Grey and Bruce Railway Company in every possible manner, did they consult their own interest only, they would have put an end to the arrangement before now. Hence it becomes a necessity for the Toronto, Grey and Bruce Railway Company to have an independent line to Toronto.

During the construction of the Toronto, Grey and Bruce Railway, the Legislature chartered another railway to Orangeville, and the Government subsequently after the completion of the Toronto, Grey and Bruce Railway to that point, subsidized the rival line which is almost parallel to the Toronto, Grey and Bruce Railway, and for a long way running quite close to the same, meeting it at Alton, in the County of Peel. The Directors have no desire to express any opinion as to how far Government may be correct in thus subsidizing what may be called competing or parallel lines, but the shareholders of the Toronto, Grey and Bruce Railway Company and the Board beg to set forth that they occupied a territory heretofore unoccupied and in want of a railway, and on that basis

the share capital was subscribed, and what to them is still more important, their bonds were negotiated in England upon a prospectus accompanied by a map showing the territory occupied by themselves, the Northern Railway Company and the Grand Trunk Railway Company, and upon that basis those bonds were negotiated.

The English bondholders finding now another line subsidized have just cause of complaint, and the Board fears that English investors will decline further to purchase the bonds of the company, and the Board in any case respectfully ask that they may be placed in no worse position than their younger neighbours and that aid at the rate of $2,000 per mile be granted on that section of the line from Toronto to Orangeville.

Apart from any other consideration the Board feels that the fact of their having commenced operations a few months before the Railway Aid Act was passed, should not bar them now from seeking aid and the obtaining of which apart from any local consideration would leave them simply on a par with other roads, especially when it is borne in mind that by their having undertaken this work, they were among the first to endeavour to raise the country from the state of the depression which had been existing for some years previously. Referring to a letter addressed to the Attorney-General on the 4th of July, 1873, enclosing statements giving the financial condition of the Company as to the Grey and Bruce extension, and showing a deficit of upwards of $305,000 on them at that time, it may be said that the obtaining of this aid would simply assist the Company towards fulfilling its promises to the public and towards meeting its engagements to its creditors, and even with this aid the whole of the share capital is now only of nominal value and may be considered entirely sunk. Relying upon the liberality of the Government and the justice of their claims, the Company have since that date entered into arrangement for an additional supply of six large locomotives and upwards of 100 cars and failing to secure the aid asked the Company will have to throw back this rolling stock upon the hands of the contractors (a contingency which has been provided for in the arrangements), and abandon any prospect of building an independent line from Toronto to Weston.

In conclusion I have to say that unless this aid now asked for be obtained, it will result in the most serious embarrassments to the Company.

I have the honour to be, Sir,
Your obedient servant,
JNO. GORDON.
President.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 27th December, 1873.

SIR,—Adverting to your communication of 20th instant, advancing certain reasons which, in the opinion of the Directors of the "Toronto, Grey and Bruce Railway Company," entitle that Company to aid from the Government on that section of their line from Toronto to Orangeville, I am directed to intimate that the application has reference to a portion of the line of that Road which is expressly excluded from any aid out of the Railway Aid Fund and subsidy by the terms of the Acts relating to such funds, and that, therefore, it is not in the power of the Government to entertain such application.

I am further directed to state that the Government has under consideration the application of your Company for additional aid for the portion of your line between Orangeville and Owen Sound, but, before coming to a definite conclusion thereon, the Government desires that the question now at issue between your Company and the Corporation of the Town of Owen Sound as to the lands on the Harbour assumed to be covered by a grant to your Company, should first be settled. The earlier this is set at rest the sooner the Government will be enabled to inform you officially of their action in connection with this section of the Road, as also with regard to the Bruce extension.

I have the honour to be, Sir,
Your obedient servant,
I. R. ECKART.
Assistant Secretary.

John Gordon, Esq., President,
Toronto, Grey and Bruce Railway Company.

(Copy.)

THE TORONTO GREY AND BRUCE RAILWAY,
TORONTO, 3rd January, 1874.

To the Honourable
The Provincial Secretary of Ontario.

SIR,—I am in receipt of your communication of 27th ultimo. We cannot agree with the conclusion drawn by you that we are precluded by the "Railway Aid Act," from participating in the fund. I must again reiterate what I stated in my former communication as to the Company's claims in regard to the Toronto and Orangeville section. I would feel obliged if the Government would grant the Directors an interview, so that the subject might be more fully explained.

With reference to your remark that the Government, before coming to a definite conclusion in regard to the subsidy from Orangeville to Owen Sound, desires a settlement of the question now at issue between the Company and the Town of Owen Sound, as to the lands on the Harbour, I beg to say that this Company holds a patent of these lands from the Crown, sanctioned by an Order in Council, said patent having been obtained after a full discussion of the Company's claims to said lands. I am at present at a loss to understand how the possession of said property, obtained as it was by the Company, can in any way prejudice the claims of the Company to aid from the Government. So far no official information has been conveyed to this Company, that there was any difficulty existing between the Town of Owen Sound and the Company. I shall be glad to hear what the question at issue between us consists in, in order that if possible, an amicable settlement may be arrived at. I consider the interests of the Town and the Company in this matter to be nearly identical.

I am, Sir,
Your obedient Servant,

(Signed) JNO. GORDON,
President.

(Copy.)

THE TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 13th January, 1874.

To the Hon.
The Provincial Secretary of Ontario.

SIR,—Referring to the letter of the President of this Company dated 3rd instant, I am requested to remind you that the Directors are most anxious to obtain an interview with the members of the Government on the subject of their claim for aid. Creditors of the Company are becoming very anxious to know what the position of the Company really is in regard to the subsidy. The favour therefore of an interview at an early date will very much oblige,

Sir, Your obedient servant,

(Signed) W. SUTHERLAND TAYLOR,
Secretary and Treasurer.

(Copy.)

THE TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 14th January, 1874.

Hon. A. CROOKS.

DEAR SIR,—Referring to your note of 12th marked "private," and to Mr. Beatty's interview with you yesterday, I am really at a loss to know what the Town of Owen Sound want; but the Company is prepared, if required, to abandon the marsh property or lands acquired from the Crown, lying south of Ince's Wharf, to the Town, by being paid the amount they cost, including surveys, &c.; not a large amount, which I trust will be satisfactory to Owen Sound and the Government.

I have the honour to remain, Sir,
Your obedient servant,
(Signed) JOHN GORDN.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 16th January, 1874.

SIR,—With reference to the question raised on behalf of the Corporation of the Town of Owen Sound as to their right to certain lands comprised in the patent to the "Toronto, Grey and Bruce Railway Company," I am directed to inform you that the Railway Company is prepared to abandon the marsh property or lands acquired from the Crown lying south of Ince's Wharf to the Town of Owen Sound, by being paid the amount they cost including surveys, which amount the Government is informed is not a large one. You will be good enough to reply at your earliest convenience and to intimate whether or not this proposition is satisfactory to the Corporation.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant-Secretary.

His Worship the Mayor,
Owen Sound.

(Copy.)

THE TORONTO, GREY AND BRUCE RAILWAY,
TORONTO, 22nd January, 1874.

Hon. ADAM CROOKS,
Toronto.

DEAR SIR,—Herewith I beg to send you the Financial Statement which you asked for yesterday. It shows the position of the "Toronto, Grey and Bruce Railway Company" at 30th November, 1873.

I am, dear Sir,
Your obedient servant,
(Signed) W. SUTHERLAND TAYLOR,
Secretary and Treasurer.

TORONTO GREY AND BRUCE RAILWAY.

Financial Statement of Capital Account, from Organization of Company up till 30th November, 1873.

Receipts.

Bonuses as follows:		
Municipal	$869,170 50	
Provincial Government	231,592 00	
		$1,100,762 50
Stock		271,142 09
Bonds, net		1,033,756 41
Loans and Bills Payable		308,721 17
Total Receipts		$2,704,382 17

Expenditure.

Construction Work	$1,329,134 70	
Iron and fastenings	685,317 71	
Right of way	88,050 19	
Engineering	103,424 07	
Interest and Discounts	120,233 90	
Other expenses	53,785 99	
Equipment	308,811 26	
Balance—Cash in Banks	15,624 35	
		$2,704,382 17

Liabilities.

Loans and Bills Payable	$308,721 17	
Due to Contractors	42,000 00	
Locomotion Engines ordered	75,000 00	
Cars now building and not paid for	100,000 00	
		$525,721 17

Expenditure yet to be Incurred.

To complete in Grey	$25,000 00	
Do. Teeswater	256,000 00	
Wharf and terminal works at Owen Sound	45,000 00	
Independent line to Toronto, and purchase of shops at Queen's Wharf	100,000 00	
		$426,000 00
		$951,721 17

Assets.

Cash in banks		$15,624 35	
Bonds issued but unsold, $166,000, realizing at 85		141,100 00	
Government Bonus—Harriston towards Teeswater	$42,000 00		
Stock still to collect	8,000 00		
	$50,000 00		
Bonds, same amount, realizing at 85	42,500 00	92,500 00	249,224 35
Deficiency			$702,496 82
From which deduct the following expected Receipts:			
Government Bonus—Toronto to Orangeville		$98,000 00	
Do. Orangeville to Owen Sound		68,000 00	
Do. Extra on Bruce extension		7,000 00	
Bonus from City of Toronto, $100,000, to realize		93,000 00	
		$266,000 00	
Bonds, same amount, realizing at 85		226,100 00	
			$492,100 00
Floating debt to be carried			$210,396 82

SUPPLEMENTARY RETURN

Of correspondence and papers relating to the "Toronto, Grey and Bruce Railway," subsequent to 22nd January, 1874.

By Command,
C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 13th March, 1874.

Schedule of correspondence and papers relating to the "Toronto, Grey and Bruce Railway."

1874.
February 25.—Letter from Assistant-Secretary Eckart, to Secretary of Company.
February 27.—Letter from Secretary of Company, to the Hon. Provincial Secretary.
March 2.—Letter from Assistant-Secretary Eckart, to Secretary of Company.
March 3.—Letter from Secretary of Company, to the Hon. Provincial Secretary.
March 3.—Letter from John H. Musgrave, Toronto, to the Hon. Attorney-General.
March 16.—Memo: as to Bruce Extension.
March 16.—Letter from Chief Engineer of Company, to President of Company.
March 16.—Estimate.
March 16.—Report of Hon. Provincial Treasurer.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 25th Feb., 1874.

SIR,—I am directed to request you to furnish, at your earliest convenience, for the information of the Government the total mileage length of the "Toronto, Grey and Bruce Railway" in its different sections, and the distance between Weston and Toronto.

I have also to inquire the amount of stock subscribed, and the amount paid thereon, also amount of bonds issued, and yet to be issued.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant-Secretary.

W. S. Taylor, Esq., Secretary,
Toronto, Grey and Bruce Railway, Toronto.

(Copy.)

THE TORONTO, GREY AND BRUCE RAILWAY,
SECRETARY AND TREASURER'S OFFICE,
TORONTO, 27th February, 1874.

SIR,—In reply to your communication of the 25th inst., only received to-day, I beg to say that the total mileage of the "Toronto, Grey and Bruce Railway" is as follows:

Toronto to Weston Junction	9 miles.
Weston Junction to Orangeville	40 "
Orangeville to Harriston	47 "
Harriston to Teeswater	25 "
Orangeville Junction to Owen Sound	69 "
Total mileage	190 miles.

The original stock subscription was $314,800 00, on which ten calls of 10 per centum have been made realizing $271,142 00.

The total amount realized from paid up stock and bonuses, has been $1,371,904 00

Company can only issue bonds for a like amount, of which have already been issued 1,366,533 00

Leaving still to issue at present time 5,371 00

I am, Sir,
Your obedient servant,
(Signed) W. Sutherland Taylor,
Secretary-Treasurer.

To the Honourable
The Provincial Secretary of Ontario.

(Copy.)

Provincial Secretary's Office,
Toronto, 2nd March, 1874.

Sir,—I am directed to request you to furnish, for the information of the Government, at your earliest convenience, copies of the annual reports of the " Toronto, Grey and Bruce Railway Company " for the years, 1872–73.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. Eckart,
Assistant-Secretary

W. Sutherland Taylor, Esq.,
Secretary, " Toronto, Grey and Bruce Railway, Toronto.

(Copy.)

The Toronto, Grey and Bruce Railway,
Secretary and Treasurer's Office,
Toronto, 3rd March, 1874.

Sir,—In reply to yours of 2nd received to-day, I beg to hand you two copies each of Reports for 1872 and 1873.

I previously sent you a copy of the last report, viz., that for year ending 30th June, 1873.

Your obedient servant,
(Signed) W. Sutherland Taylor,
Secretary and Treasurer.

To the Honourable
The Provincial Secretary of Ontario.

(Copy.)

Office of the Board of Trade,
Toronto, March 3rd, 1874.

Sir,—I have the honour to transmit to you copy of a resolution passed by this board at a general meeting of members on the 25th ult :—

That a Committee of this board be appointed to draft a memorial and wait upon the Ontario Government without delay, to urge the immediate necessity of granting the aid towards completing the "Toronto, Grey and Bruce Railway," and that Messrs. J. G. Worts, John Gordon, George Lewis, S. W. Farrell, John Burns, and A. M. Smith be such Committee.

I have the honour further to ask you to appoint time and place most convenient to you to receive said Committee.

I have the honour to be,
Your most obedient servant,
(Signed) JOHN H. MUSGRAVE,
Secretary.

To the Hon. Attorney-General of Ontario.

MEMO.—Answered 6th March, 1874, Saturday at 4 o'clock, P.M.

Mem. for Bruce Extension required to complete, in round figures. See statement in detail. $260,000

Provision as below:—

Government Bonus already sanctioned to Teeswater.....	$50,000	
Bonds thereon, at 75 cents.....	37,500	
		87,500
		172,500
Required.....	$100,000	
Bonds, at 75 cents.....	75,000	
		175,000
Balance to good.....		2,500

Above required without making any provision for present floating debt.

(Signed) JOHN GORDON.

March 16th, 1874.

THE TORONTO, GREY, AND BRUCE RAILWAY,
ENGINEER'S OFFICE,
TORONTO, 16th March, 1874.

SIR,— The following works require still to be done upon the Bruce extension of this railway:—

1. Between Mount Forest and Harriston the whole of the ballasting has still to be done; there is still some fencing required; the station at Harriston is not completed, and a considerable amount of grading and laying of sidings have to be done at that place.

2. Between Harriston and Wroxeter, about one-half of the grading and fencing are still wanting, and there are numerous culverts and cattle guards required. The bridges are all finished. No station work of any kind has yet been commenced, neither have any rails or fastenings yet been ordered, consequently the track laying and ballasting have still to be done.

3. Between Wroxeter and Teeswater the whole of the grading and fencing are completed and ready to receive the rails, but as yet no rails or fastenings have been ordered, and no track laying or ballasting been done. No work has been done upon any of the stations. The right of way has not yet been paid for, and the ballast pits along the whole of the Bruce Extension have yet to be purchased.

On the other leaf I present an estimate of the cost of the above-mentioned works.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) EDMUND WRAGGE.
Chief Engineer.

Estimate of cost of works still to be executed upon the Bruce Extension of the "Toronto, Grey and Bruce Railway."

Mount Forest to Harriston—		
Ballasting	$ 8,000 00	
Grading, Fencing, Stations, and Track Laying	4,000 00	
		$ 12,000 00
Harriston to Teeswater—		
Grading, Fencing, &c., between Harriston and Wroxeter	30,805 00	
Stations	10,000 00	
Right of Way and Ballast Pits	6,000 00	
Rails 2,200 tons, at $62 50	137,500 00	
Track Laying and Ballasting	25,000 00	
Fastenings, 100 tons, at $100	10,000 00	
Engineering	3,000 00	
Contingencies, Engine Power, and Cars for ballasting &c.	22,230 00	
		244,535 00
Total Estimated Cost in Cash		256,535 00

(Signed) EDMUND WRAGGE,
Chief Engineer.

John Gordon, Esq.,
President of the Toronto, Grey, and Bruce Railway.

TORONTO, GREY, AND BRUCE RAILWAY COMPANY.

Memorandum of the Treasurer.

The undersigned has had under consideration the application of the "Toronto, Grey, and Bruce Railway Company" for further aid out of the Railway Fund to this undertaking, and begs to report the following:—

By Order in Council, dated 25th March, 1872, this Company was granted aid to an amount equal to $2,250 per mile of railway between Harriston and Wingham, subject to a condition for granting running powers over this portion to the "Wellington, Grey, and Bruce Railway Company," "The Toronto, Grey, and Bruce Railway Company" accepted this condition, and on their part, by agreement dated 30th May, 1872, approved by Order in Council, dated 7th June, 1872, granted running powers to the "Wellington, Grey, and Bruce Railway Company," according to the terms of this condition.

The "Wellington, Grey, and Bruce Railway Company" having refused to accept this grant of running powers, by Order in Council dated 12th March, 1873, ratified 18th March, 1873, a sum equal to $2,000 per mile, in respect of the milage of that portion of the line between Harriston and Wingham was granted in lieu of the former aid of $2,250 per mile, the company being freed from the condition as to running powers, and being authorized to proceed to Teeswater instead of Wingham.

This Company, by petition, dated 7th March, 1873, formally renewed their application that a sum of $3,000 a mile should be granted in respect of their line between Orangeville and Owen Sound, and stated that the Order in Council of the 28th February, 1872, which granted aid to the Company at the rate of $2,000 per mile, was not accepted as final; that it was left open to the Company to contend that they were entitled to aid at the rate of $3,000 per mile instead of $2,000; that all their financial arrangements were based upon the assumption of their obtaining a grant at $3,000 per mile, which they had reason from the late Hon. J. S. Macdonald to expect; that in negotiating the bonds of the Company, they had in consequence represented that aid at this milcage rate would be granted to the Company; that

without it, it was impossible to finish the road ; and that the directors, failing in February, 1872, to secure a larger aid than $2,000 per mile, had gone on, at large personal responsibility, with the construction of this line, inasmuch as any delay would then have resulted in failure, and in virtual abandonment of the line ; and the large section of country between Orangeville and Owen Sound would have been left destitute of railway accommodation.

The Company further urges that since their former application it has become an established fact, that the lands of the Crown in the townships served by their railway have been largely increased in their saleable value, and that before the construction of the railway these lands were practically valueless.

The Company further states that the loss of this one thousand dollars per mile creates a corresponding deduction in the amount to be raised upon the bonds of the Company, and the Company courts an inspection of its books and an examination into the affairs of the Company ; and states that without this grant there is a considerable deficiency in the Company's funds, which will lead to serious embarrassment.

The account annexed to the petition shows that, after the stock has been called up, with this additional mileage grant, the Company would have barely funds to cover the expenditure on this portion of their line.

In a further communication, dated the 4th July, 1873, addressed to the Hon. Attorney-General, by Mr. Gordon, the president of the Company, a financial statement is transmitted, which shows the then position of the line from Orangeville to Owen Sound, and the material increase in the cost of different items ; and the President again urges reasons for obtaining this additional grant of $1,000 per mile. These reasons comprise eleven grounds as their basis, and may be thus concisely stated : (1). That it is a trunk line crossing no other railway ; and, being on the average twenty-five miles distant from any other railway, serves an important section of the western peninsula. (2). No other line could meet as well the requirements of this district. (3). For half the distance the works are heavy and specially expensive in order to reach the waters of Lake Huron, at Owen Sound. (4). The ratepayers have on their part contributed to the utmost of their ability. (5). The large amount of public lands on which one, or a few instalments were paid, and the practical inability of purchasers to pay more, unless a railway had been constructed ; and the great increase in the value of the unsold public lands in the County of Grey, about 70,000 acres ; and that the expenditure by the Company of half a million dollars in that County, has aided largely in its improvement and settlement generally. (6). The line of railway would necessarily bring under cultivation a large additional area. (7). The ratepayers of the County of Grey have had to bear the burden of the heavy advances and subsidies in favour of railways from which that locality derived no advantage, while other Counties in the Western peninsula enjoyed the benefit of some of the railways so favoured. (8). This territory required for its development the railway as much, if not more, than other parts of the country where lines have been subsidized to the extent of $3,000 per mile and more, and reference is made to the "Toronto and Nipissing Railway" through Bexley. (9). With this additional aid this portion of the Railway would still be under debt. (10). The comparative poorness of this section, and the inability of the ratepayers to do more than they have done, makes this a meritorious application. (11). This portion of the Railway could not have been abandoned, and it has been proceeded with in the best interests of all, in good faith that the Government would place the Company on the basis $3,000 per mile subsidy, on which they made their financial arrangements for the construction of this portion of their railway.

With respect to the portion of the line to Teeswater, the President gives reasons for claiming that the Company should receive the allowance of $2,000 per mile, for the full mileage from Harriston to Teeswater ; and also states that the Company's means will be insufficient to complete the line to Teeswater, which must be suspended unless the additional $1,000 per mile from Orangeville to Owen Sound is obtained. The President also refers to this undertaking as one solely to supply a great want in the north-western Counties of the Province, and that the proprietors' private capital must remain unproductive for a long time, if it is not altogther lost, and that the Company is only solicitous that their promises to the contributing municipalities should be faithfully carried out, and an enterprise, entirely Canadian, be made successful ; and the President again offers to submit all the books of the Company to inspection.

The statements which accompany this letter of the President show a deficiency of

$254,150, if the Provincial Bonus is not increased; and on the Bruce Extension the deficiency shown is $51,355, without any provision for rolling stock.

Upon reference to the Commissioner of Crown Lands, he has caused a statement to be prepared which shows a total quantity of unpatented lands, in the district referred to, of 306,820 acres, and the Commissioner, on the 1st of December, 1873, also reports that the sale of the public lands in the townships of this district has been much stimulated by the construction of the "Toronto, Grey, and Bruce Railway," and that arrears have been and are now being collected, which, no doubt, would have otherwise accumulated to an amount in excess of the value of the land, and that it can be assumed as a fact that the construction of this railway has largely benefited the Crown domain.

In view of the foregoing circumstances, the undersigned respectfully begs to state the following conclusions, which, after full consideration of them, he has arrived at, viz.:—

(1.) With reference to the line between Orangeville and Owen Sound, that the matter of the amount of the Provincial aid should be reconsidered, and that the additional grounds now brought forward and definitely ascertained, place Your Excellency's Government in a different position from that which they occupied when the Order in Council of the 28th February, 1872, was passed; and that the reasons stated in the letter of the President of the Company, of the 4th July, 1873 established the contention of the Company that it is not precluded from urging its claim to larger aid than that granted by the Order in Council of the 28th February, 1872; and also present meritorious considerations for now determining this question.

(2.) The limited amount of the Railway Aid and Subsidy Fund, and the claims of other railway enterprises, make it necessary to weigh carefully the different reasons which the company now urges, and also how far similar grounds may not as fairly be taken by any other railway which has been or may be aided. In the cases of railways already aided, the mileage amount has been definitely fixed and acceded to by the different Companies, and their financial arrangements are based on such amount, while this Company based the extension to Owen Sound, and made its financial arrangements upon the mileage amount of $3,000 per mile contended for, and had grounds possibly for this expectation. At all events, this Company refused to accept the benefits of the Order in Council of February, 1872, as determining the amount of aid it was entitled to receive. The reasons on which the amount of $2,500 per mile was recommended in the case of the "Prince Edward Company's Railway" also apply to this portion of railway, viz., that it was serving a tract of country not hitherto enjoying railway facilities, and which had borne its full share of all the grants and debts incurred in the construction of other railways from which this district derived no local advantages, and the reasons for the allowance of $3,000 a mile in the case of the "Toronto and Nipissing Railway" through the Township of Bexley, and a portion of the "Kingston and Pembroke Railway," and of the "Northern Extension" to Muskoka, in regard to sections traversed where large quantities of public lands remained unsold or unpaid for, and their value consequently largely increased, applies with equal force to the townships through which this part of "the Toronto, Grey, and Bruce Railway" runs; and it is now manifest that the public, through the increased value of these lands, has been benefitted largely in excess of the additional amount of aid now asked for.

The large aids from public sources given to the "Northern," the "Buffalo and Lake Huron," and "Grand Trunk Railways," gave districts, similarly situated to the district now served, and many years in advance of it, railway facilities, and if by withholding the aid now asked for, that district should be inadequately served through the suspension of the "Toronto, Grey, and Bruce Railway," the inhabitants would have just reason to complain of being placed in a disadvantageous position as compared with the other districts mentioned.

Considering therefore the advantages conferred by this Company upon a large tract of territory hitherto unserved by railways, the other special circumstances referred to, the increase in value given by the railway to the Lands of the Crown or which the Crown is interested in, and the importance of enabling the Company to perform its railway services in the general interest, the undersigned would recommend that an additional appropriation, so far as the railway aid and subsidy funds may be applicable thereto respectively, be authorized by Order in Council, equivalent to one thousand dollars per mile for the distance between Orangeville and Owen Sound, subject to all necessary conditions for the protection of the public in the district traversed by the railway, and subject to ratification by the Legislative Assembly.

The undersigned would also further recommend that, having regard to the importance of the early construction of the line to Teeswater, and in order to enable the Company to fulfil the just expectations of the ratepayers of the Municipalities which contributed their bonuses towards this line, and the inadequacy of the Company's resources that the grant of aid to the portion of this railway between Harriston and Teeswater, be at the rate of $2,000 per mile, for the whole mileage distance, instead of, for the distance mentioned in the Order in Council of the 12th day of March, 1873.

Respectfully submitted,

(Signed,) ADAM CROOKS,
Provincial Treasurer.

March 16th, 1874.

RETURN

Of Correspondence and Papers relating to the "Wellington, Grey and Bruce Railway," subsequent to that printed in Sessional Papers of 1873.

By command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
Toronto, 12th January, 1874.

Schedule of Correspondence and Papers relating to the "Wellington, Grey and Bruce Railway.

1873.—Memo. of Contract.
March 12.—Acknowledgment of contract.
" 29.—Letter from Assistant Provincial Secretary to Secretary of Company, enclosing:
" 24.—Copy of Order in Council;
April 7.—Letter from Assistant Provincial Secretary to Secretary of Company;
" 14.—Letter from Secretary of Company to Provincial Secretary.
October 21.—Letter from Burton, Bruce & Walker to Provincial Secretary, enclosing:
Petition from Ratepayers in certain Municipalities through which the line of the Southern Extension will pass.
Petition of certain Municipalities.
" 22.—Letter from R. M. Wells, M. P. P., to Hon. Provincial Treasurer.
" 25.—Statement of Ways and Means.
Dec. 1.—Letter from H. Kinloch to Secretary of Company.
" 6.—Letter from Secretary of Company to H. Kinloch.
" 15.—Letter from President of Company to Hon. Provincial Treasurer, enclosing:
Nov. 25.—Letter from W. Hendrie & John Proctor to the President and Directors of the Company;
" 25.—Letter from Martin & Bruce to W. Hendrie & John Proctor.
Dec. 29.—Letter from Assistant Provincial Secretary to President of Company.
1874.
Jan. 3.—Letter from Burton, Bruce & Walker to Provincial Secretary.

(Copy.)

MEMO:

Contract between William Hendrie and Wellington, Grey and Bruce Railway Company, for the construction of the Southern Extension of the line from Wingham to Kincardine, dated 1st February, 1873.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 12th March, 1873.

SIR,—I have the honour to acknowledge the receipt of a contract between William Hendrie and the "Wellington, Grey and Bruce Railway Company," for the construction of that portion of the company's line from Wingham to Kincardine (Southern Extension), and to inform you that the subject will be submitted to His Excellency the Lieutenant-Governor.

I have the honour to be, Sir,
Your obedient servant,
I. R. ECKART,
Assistant Secretary.

William McGiverin, Esq., President,
"Wellington, Grey and Bruce Railway Company," Hamilton.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 29th March, 1873.

SIR,—I have the honour to transmit herewith a copy of an Order in Council, approved of by His Excellency the Lieutenant-Governor the 24th day of March, A.D. 1873, having reference to the contract dated the 1st day of February, A.D. 1873, between the Wellington, Grey and Bruce Railway Company and William Hendrie, for the construction by the said William Hendrie of that portion of the railway of the said company between Wingham and Kincardine.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant-Secretary.

William McCulloch, Esq.,
Secretary,
Wellington, Grey and Bruce Railway Co.,
Hamilton

(Copy.)

COPY of an Order in Council, approved by His Excellency the Lieutenant Governor the Twenty-fourth day of March, A.D. 1873.

The Committee of Council have had under consideration the contract dated the 1st day of February, A.D. 1873, between the "Wellington, Grey and Bruce Railway Company" and William Hendrie, for the construction by the said Hendrie of that portion of the railway of the said company between Wingham and Kincardine, and the Committee considers the said contract to be *bona fide*, and satisfactory and sufficient for the completion of the said portion of the railway, and recommend that the terms of the Order in Council of the 14th day of June, 1872, in that behalf, be taken as fulfilled, and that the time mentioned in the said Order be deemed as extended for this purpose.

Certified,
(Signed) J. G. SCOTT,
Clerk Executive Council,
Ontario.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 7th April, 1873.

SIR,—I have the honour to transmit herewith the contract between William Hendrie and the "Wellington, Grey and Bruce Railway Company," for the construction of the Southern Extension of that road between Wingham and Kincardine.

You will please furnish to this Department without delay a certified copy thereof.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant-Secretary.

William McCulloch, Esq.,
Secretary,
Wellington, Grey and Bruce Railway Co.,
Hamilton.

(Copy.)

WELLINGTON, GREY AND BRUCE RAILWAY CO.,
HAMILTON, April 14th, 1873.

SIR,—I beg to acknowledge receipt of your favour of 7th instant, returning the original contract entered into between W. Hendrie and this company, for the building of the Southern Extension from Wingham to Kincardine, and as requested, now enclose you a certified copy thereof.

Yours faithfully,
(Signed) W. MCCULLOCH,
Secretary and Treasurer.

Honourable T. B. Pardee,
Provincial Secretary,
Toronto.

(Copy.)

HAMILTON, October 21st, 1873.

SIR.—We beg to enclose herewith petition to His Excellency the Lieutenant-Governor, from the municipalities and ratepayers interested in the Southern Extension of the Wellington, Grey and Bruce Railway, praying the favourable consideration of the Government to the application for aid under the Railway Aid Act, and have the honour to be,

Sir, yours obediently,
BURTON, BRUCE & WALKER.

The Honourable T. B. Pardee,
Provincial Secretary, Toronto.

To His Excellency WILLIAM PEARSE HOWLAND, *C. B., Lieutenant-Governor of the Province of Ontario, in Council.*

The Petition of the undersigned Ratepayers in the several Municipalities through which the line of the Southern Extension of the Wellington, Grey & Bruce Railway is intended to pass

HUMBLY SHEWETH:

That in the summer of one thousand eight hundred and seventy one, whilst the main line of the said Railway was under construction, a number of representatives of the various

municipalities of Ashfield, East Wawanosh, West Wawanosh, Turnberry, Elma, Grey, Morris, Wallace and Listowel, waited upon the Directors of that Company with a view to induce them to extend their line from some point on the main line, having in view its ultimate extension to Kincardine, and after lengthened negotiations and discussions as to the route the line now proposed and under construction was decided on as being most likely to meet the wishes of the inhabitants and to serve a country remote from existing Railways.

The Directors of the Company accordingly agreed that if the said several municipalities would pass By-laws, granting bonuses to the extent of six thousand dollars per mile, they would construct the said line to Lucknow, provided Government aid were obtained, to at least the minimum amount provided under the Act in aid of Railways.

That By-laws were accordingly submitted to the ratepayers and in all cases with the exception of East Wawanosh were approved of and finally passed, but were subject to a condition that the work should be commenced within three months from the passing of the By-laws, and completed within two years thereafter.

The Directors of the Railway, as your Petitioners always understood, were assured by the the then Government, whilst the By-laws were yet before the ratepayers, that, if the people showed their approval at the Polls of the route so selected, the Government aid would be granted, and in reliance on such assurance they proceeded within the time stipulated in the By-laws to commence the works, as in fact they were bound to do, in order to avail themselves of the bonuses so granted, and keep the By-laws in force.

Your Petitioners learned with much regret, therefore, that your Excellency's late advisers did not feel justified in recommending aid for the whole of this line, but merely for the portion of it lying between Wingham and Kincardine, and your Petitioners are apprehensive that the means of the Company without such aid may prove insufficient to complete a line in which they are so deeply interested, and in which so large a sum of money has already been expended.

Your Petitioners, therefore, humbly pray Your Excellency to reconsider the application of the Company, and to grant the aid sought for to a Railway which your Petitioners venture to submit, will be a great public benefit.

And your Petitioners as in duty bound will ever pray.

(Signed), JOHN LECKIE,
Reeve of Brussels,
and 180 other signatures.

(Copy.)

To His Excellency WILLIAM PEARCE HOWLAND, *C. B., Lieutenant Governor of the Province of Ontario, in Council.*

The Petition of the undersigned Municipalities through which the line of the Southern Extension of the Wellington, Grey and Bruce Railway is intended to pass

HUMBLY SHEWETH :

That in the summer of one thousand eight hundred and seventy-one whilst the main line of the said Railway was under construction, a number of representatives of the various municipalities of Ashfield, East Wawanosh, West Wawanosh, Turnberry, Elma, Grey, Morris, Wallace and Listowel, waited upon the Directors of that Company with a view to induce them to extend their line from some point on the main line, having in view its ultimate extension to Kincardine, and, after lengthened negotiations and discussions as to the route, the line now proposed and under construction was decided on as being most likely to meet the wishes of the inhabitants and to serve a country remote from existing Railways.

The Directors of the Company accordingly agreed that if the said several municipalities would pass by-laws granting bonuses to the extent of six thousand dollars per mile, they would construct the said line to Lucknow, provided Government aid were obtained to at least the minimum amount provided under the Act in aid of Railways.

That By-laws were accordingly submitted to the ratepayers and in all cases, with the exception of East Wawanosh, were approved of and finally passed, but were subject to a con

dition that the works should be commenced within three months from the passing and completed within two years thereafter.

The Directors of the Railway, as your Petitioners always understood, were assured by the then Government, whilst the By-laws were yet before the ratepayers, that if the people showed their approval at the polls of the route so selected, the Government aid would be granted; and in reliance on such assurance they proceeded within the time stipulated in the By-laws to commence the works, as in fact they were bound to do in order to avail themselves of the bonuses so granted, and keep the By-laws in force.

Your Petitioners learned with much regret, therefore, that your Excellency's late advisers did not feel justified in recommending aid for the whole of this line, but merely for the portion of it lying between Wingham and Kincardine, and your Petitioners are apprehensive that the means of the Company without such aid may prove insufficient to complete a line in which they are so deeply interested, and in which so large a sum of money has already been expended.

Your Petitioners, therefore, humbly pray Your Excellency to reconsider the application of the Company, and to grant the aid sought for to a Railway which your Petitioners venture to submit will be a great public benefit.

And your Petitioners in duty bound will ever pray, &c.

(Signed) BENJAMIN WILLSON, *Reeve*, Turnberry,
WM. DOUGLAS, J.P., " "
LAWRENCE LOVELL, *Councillor*. "
JOHN ROBINSON, " "
ROBERT MCKEE, " "

Signed and sealed at Turnberry, this 4th day of August, A.D., 1873.

(Signed) JAMES JOHNSTON, [L.S.]
Township Clerk.

(Signed) JOHN LECKIE, *Reeve*, Brussels
THOMAS BALLANTYNE, *Councillor*. "
BEN. GERRY, " "
JOHN E. HOLLIDAY, " "
CHARLES WRIGHT, " "

Signed and sealed at the Village of Brussels, this 6th day of August, A. D., 1873.

(Signed) C. R. COOPER, [L.S.]
Village Clerk.

(Signed) ARCHIBALD MCDONALD, *Reeve*, Grey
SAMUEL SLEEMEN, *Dep. Reeve* "
THOS. W. WILLIAMSON, *Councillor* "
LAWRENCE DOBSON, " "
LEWIS MCDONALD " "

Signed and sealed at Grey this 7th day of August, A.D., 1873.

(Signed) ALEX. HUNTER. [L.S.]
Township Clerk,

(Signed) DONALD SCOTT, *Deputy-Reeve*
JOHN R. MILNER, *Councillor*
W. J. JOHNSTON. "
JOHN MCCRAE, "

Signed and sealed at Morris, this 11th day of August, 1873.

(Signed) W. Clegg, [L.S.]
Township Clerk,

(Signed) D. D. Campbell, *Reeve,* Listowel.
John Nichol, *Councillor* "
J. W. Fraser, " "
George Hays, " "
John Alexander. [L.S.]

(Signed) Robert L. Alexander, *Reeve,* Elma.
George Armstrong, " Ashfield.
Edwin Grant, *Deputy-Reeve,*
(In the absence of the reeve,) W. Wawanosh.
David Sott, *Reeve,* E. Wawanosh.

(Copy.)

Toronto, October 22nd, 1873.

The Hon. Adam Crooks.
Provincial Treasurer, &c.

Sir,—Before you left for Europe, I had a conversation with you respecting the claim of of the "Wellington, Grey and Bruce Railway Company," for aid towards that part of their extension which lies between Palmerston and Wingham. I afterwards received a note from you, dated 7th of April, 1873, in which you said, "The more I think of the position of the extension of the W. G. and B. from Palmerston to Wingham, the stronger the arguments seem to be for granting them aid." I now beg on behalf of a large portion of my constituency, to bring the matter before you in a more formal way.

The Charter of the W. G. & B. main line, from Guelph to Southampton, was obtained in 1864. In the sessions of 1870-1 the Company obtained powers to extend from Palmerston to Kincardine. The comparative length of these two lines is :

Main line	102¾ miles
Extension	66½ "
Total	169¼ "

The Bonuses from the Municipalities are :

Main line	$470,000
Extension	255,000
Total	$725,000

The Government aid has been :—

Main line	$107,944
Extension	56,000
Total	$163,944

The Company got no Government aid from Guelph to Harriston, a distance of forty-eight (48) miles or very nearly one-third of their whole mileage, the contract for this section having been entered into a few days prior to the 7th of December, 1870.

Before any application was made to the Townships for aid to the extension the Government of the day was applied to, and the Directors were told that if bonuses were obtained, sufficient, with the Government aid and the bonds of the Company, to warrant them in proceeding, aid would be granted. The rate-payers were accordingly appealed to and there was a distinct condition in the agreements that unless the Government aid were obtained the Company should not be bound to build the road. A time was also limited in the By-law for the commencement of the work, and failing such commencement the By-law was to be void. All these things were communicated to the Government, and express assurances were again given that if the people sustained the By-law the Government aid would be granted. On the faith of these assurances the work was proceeded with. The refusal of the present Government to fulfil the pledges of the Macdonald Government puts the Company and the Townships in this position,—the former have made false promises to the latter, the latter upon the faith of these promises have given them money, and now the Company are unable to pay the interest upon their bonds and the contractors refuse to hand over the work.

Matters are rapidly approaching a crisis, and unless something is done there will be very serious embarrassment and great dissatisfaction throughout the whole country served by this extension.

Mr. Blake's Government declined to aid the section in question, upon the ground, I believe, that the Guelph Co. and the Toronto Co. ran to the same point, Wingham, that the distance from Kincardine to Lake Ontario would be shortened by running across the string of the bow, i.e., from Wingham to Harriston; that it would be impossible to assist two rival roads, running from the same point to the same point; that in making a choice between them it was the duty of the Government to prefer the shorter route; that it would be unfair to Kincardine and that section to compel them for all time to go by and pay for the longer road, and finally that the true interests of all parties would be the best served by a scheme which gave running powers to each Company.

Of course all these reasons are parts of the same proposition, viz: that as between two roads running between Wingham and Harriston, the Government were bound to aid the shorter in perference to the longer line. It seems to me that admitting this reasoning to be perfectly sound, the circumstance, which has since happened, viz: the alteration of route by the Toronto Co., running to Teeswater instead of to Kincardine *via* Wingham, changes the whole question and relieves the Government of all difficulty. The two roads no longer go to the same point. They no longer serve the same country. They are no longer rival roads to any greater extent than are the main lines. They no longer admit the possibility of running powers, nor can it any longer be said that Kincardine and the country lying about it are in the least degree prejudiced by the proposed aid, since independently of this question altogether, the Toronto Co. have abandoned the idea of going further than Teeswater. Upon this point, I refer you to the enclosed pamphlet, published under the sanction of the Toronto Company, See page 27. "The Railway (T. G. & B.) as projected will be carried through from Wroxeter to Teeswater in the County of Bruce, *and may ultimately be extended to Lake Huron.*" again page 29, "Kincardine village, although distant from *the proposed terminus of this Railway at Teeswater*, about twenty-three miles &c." The Extension to Kincardine is only now spoken of as an ultimate possibility. As to the objection of assisting rival lines, I do not know whether it is at present entertained by the Government. I think however that if it is entertained, it will vanish upon a consideration of what has already been done in that way. A reference to the map which accompanies this letter, will show that the Toronto road is a rival of the Guelph road along almost its entire main line, the two roads running within about twenty-two miles of each other. I do not say that for this reason the main line of the Toronto road should not have been assisted, on the contrary, I think that they are entitled to still further assistance, nor do I say that their extension should not have been assisted, although from Arthur to Teeswater it runs almost within speaking distance of the main line of the Guelph Co., but I do think that the Government by granting aid to that extension, are estopped from denying assistance to the extension of the Guelph Co., on the ground of its proximity to the extensions of the Toronto Co.

But whatever may have been the position of matters when the petitions for aid by the two companies were formerly before the Government, I repeat that it is now entirely changed. The route of the Toronto road is altered. The terminus is altered. The question of running powers is at an end, and the simple question which the Government have now to answer is what would

have been their reply if these two companies had originally come with their present routes a plans? I beg to refer you to the enclosed map and to ask you whether the extension of t Toronto Company from Orangeville to Teeswater, running nearly the whole way within average distanceof 4 or 5 miles from the main line of the Guelph Company, would have be preferred to the extension of the Guelph Company, running as it does through a new and un supplied country? Would it ever have occurred to the Government to say: We will aid th Toronto Company along its whole line, but as to the Guelph Company we will leave a gap from Palmerston to Wingham unassisted.

I cannot imagine that any such answer would have been given.

In a former communication to you upon this subject I suggested the granting of aid to this section, based upon the mileage in a direct line from Palmerston to Wingham. That course, however, would not be satisfactory or fair. A reference to the map will show that the deflection on the line from Mount Forest to Teeswater is almost as great as from Palmerston to Wingham.

I do not wish it to be inferred from anything I have written that I disapprove of the aid which has been granted to the Toronto Company. On the contrary, I should be glad to see them still further aided. I believe that in adopting the minimum scale of aid to this important line, the Government have not done full justice to its spirited promoters, nor to the country which the line serves I merely protest against any unfair distinction being made between the two companies—or in other words, between one section of the County of Bruce and another section.

I therefore beg that you will lay this matter before the Executive Council at your earliest convenience. To my mind the arguments in favour of granting this aid are quite irresistible.

I have the honour to be,
Your obedient servant,
R. M. Wells.

Statement of Ways and Means, Southern Division W. G. and B. Railway, as at 25th October, 1873.

Liabilities.	$ cts.	Assets.	$ cts.
To Contractors, including Station Buildings, &c.	312,849 72	Municipal Bonuses on hand and to receive from Municipalities $85,000; estimated to realize	79,900 00
For Rails, Fish Plates, Spikes, Bolts and Nuts	37,000 00	Government Aid—Wingham to Kincardine, 28 miles, at $2000 per mile	56,000 00
For Engineering expenses, and Right of Way	11,000 00	Due from London Agents	7,459 00
For Switches, Signals, &c.	4,500 00	Issue of Bonds on Sidings not yet sanctioned by Great Western Railway—154 miles, at $12,000—$186,000, at 85	158,100 00
To Bankers	240,412 00	Balance deficiency	143,377 22
For Balance of Interest Account during construction	38,127 50		
General Management—Law Expenses, &c.	17,317 00		
	444,836 22		444,836 22

Secretary-Treasurer's Office,
Hamilton, 25th October, 1873.

(Signed) W. McCulloch,
Secretary-Treasurer.

(Copy.)

TORONTO, 1st December, 1873.

DEAR SIR,—I am requested to draw your attention to statement of ways and means Southern Division "Wellington, Grey and Bruce Railway," dated 25th October, 1873, and to ask you to explain if this statement represents the balances still payable on the several counts or liabilities mentioned; and so with the assets, whether or not these are the only remaining assets of the company available for the construction of the Southern Extension. From the statement it would appear that the proceeds of all bonds issuable in respect of this Division had been exhausted. Please state the facts with the regard to the bonds and also as to whether the fifteen and a half miles of sidings, in respect of which there is a proposed issue of Bonds, relate exclusively to sidings on this division of the Railway.

I am, dear Sir,
Yours truly,
(Signed) HY. KINLOCH,
Sec. Executive Council.

W. McCulloch, Esq.,
Secretary,
"Wellington, Grey and Bruce Railway Co."
Hamilton.

(Copy.)

WELLINGTON, GREY AND BRUCE RAILWAY.
HAMILTON, 6th December, 1873.

SIR,—I have the honour to acknowledge your letter of the 1st instant, desiring to be informed whether the statement furnished by this Company of its ways and means as at the 23rd October, represents the balances still payable on the several liabilities mentioned therein, and whether the assets are the only remaining assets of the Company available for the construction of the Southern Extension. In reply, I have to state that that statement correctly represents the present debits and the sums which will be payable to the contractors on receiving their final certificates.

The statement also shows the remaining assets at present available. I should, however, mention that there is a sum of £12,500 deposited in London, England, as security for the payment of the interest on the bonds, which may or may not eventually become an asset, and from which, in the former contingency, the Company hopes to make up a portion of the deficiency shewn in the statement.

All the bonds, with the exception of those proposed to be issued on sidings have been exhausted and applied to construction—the 15½ miles being the full extent of sidings on main line and extension.

With the exception above referred to, the Company has no assets of any kind towards meeting the liabilities still outstanding, as shewn in that statement.

I have the honour to be, Sir,
Your obedient servant.
W. MCCULLOCH.
Secretary and Treasurer.

H. Kinloch, Esq.,
Sec. Executive Council,
Toronto.

(Copy.)

WELLINGTON, GREY & BRUCE RAILWAY,
HAMILTON, 15th December, 1873.

SIR.—I beg to refer you to the application of this Company for a further grant of aid on the Southern Extension of this Company's line, and to the statement of assets and liabilities of this Company, furnished as at 25th October last, shewing a deficiency of $143,377.22. Included in that statement is an asset of $158,100 which the Company anticipated they

would receive from the proceeds of the sale of bonds, to be issued on the sidings of the line. By the terms of the Company's amended charter of 15th February, 1871, clause III—they are not allowed to issue these sidings bonds until the consent of the Great Western Railway has been signified by endorsement on the mortgage. The Company have been in negotiation with the Great Western Railway Company for some time, for the purpose of obtaining that consent. I regret to inform you now that that Company has refused its assent to the issue.

The position of this Company has therefore maierially changed for the worse. The deficiency will be $300,000 and our assets of every kind are exhausted with the exception of the Interest Fund mentioned in the Secretary's letter of the 6th instant, which may or may not become an asset, as therein explained.

The line is fully completed and ready for equipment, but the contractors refuse to allow it to be worked, or to work it themselves until proper arrangements are made for paying them the amount of their claims.

I beg to enclose copy of their letter and copy of their solicitor's opinion of 25th November ultimo, refusing such consent.

It may be well to point out to you that so long as the line is not being worked the Company are losing the amount of earnings that are set aside for paying the interest on our bonds, and accumulating a very large percentage of interest on the debts we owe to the contractors. Besides this, the people of the country through which the line passes are suffering greatly for the want of Railway facilities at present. They fully expected the line to be open this fall, and the lumber and the grain merchants especially, have stored large quantities of lumber and grain at the different stations, and there it is now lying awaiting shipment. I need scarcely point out to you the disastrous results that are likely to follow when merchants obtain large advances from bankers to carry on their business, and are unable to repay them for the want of a market for their goods.

It may appear strange that this Company should have gone on constructing the line, knowing that they would be deficient in means, but at the time the Financial Scheme was framed, the iron market was very favourable, and no sooner had operations fairly begun than an increase took place in the English market altogether unprecedented. This made a change in our financial arrangements, of at least $80,000 increase on the iron supplied to the line from Palmerston to Kincardine, while the rate of labour has increased at least 25 per cent.

For these reasons, and fully believing as this Company does, that the maximum amount of aid provided by the Act in aid of Railways of 15th February, 1871, is not now more than equivalent to the minimum amount at the time the Act was passed, this Company feel themselves justified in asking the Government of Ontario to grant $4,000 per mile on the whole length of the Southern Extension, that the line may be opened for traffic, the interest on its bonds earned, and the people of the tract of country which it traverses, accommodated with the Railway facilities they so much desire and need.

I have the honour to be, Sir,

Your obedient servant,

(Signed) W. McGIVERIN,

President.

Hon. A. Crooks,
Toronto.

(Copy.)

HAMILTON, 25th November, 1873.

To the President and Directors of the "Wellington, Grey and Bruce Railway."

GENTLEMEN,—Referring to our conversation at the meeting held on Saturday, the 22nd inst., between some members of your board and ourselves, we have gone fully into the matter with our solicitors, and now send you a copy of their opinion.

From it you will see that, however, desirous we may be to meet the views of your board and the public in having this road opened for traffic now, from Listowel to Kincardine, we cannot do so without seriously risking the claims we hold against the Company, and now again beg to urge your board to request the Board of the Great Western Railway to give their consent to the issue of bonds on the sidings.

The case is plain—the present bond issue is bearing 7 per cent., and our debt is now bearing 8 per cent. and shortly will be 10 per cent., making a joint interest debt of 17 per cent. running, which can be abolished by the simple process proposed, and certainly delay is not improving the condition of the financial matters of the Company.

Yours respectfully,

(Signed) W. Hendrie,
John Proctor.

(Copy.)

Wellington, Grey and Bruce R. R. Co.,
Hamilton, 25th November, 1873.

W. Hendrie, Esq., and John Proctor, Esq.,
Contractors, W., G. & B. Ry. Co.

Gentlemen,—We have carefully considered the question requiring attention in view of the request made, that you should enter into an arrangement to permit the Wellington, Grey and Bruce Railway to be worked temporarily either by the Great Western Railway Company, the Wellington, Grey and Bruce Railway Company, yourselves or others.

After the very full discussion of all the facts which took place at our interview, we are of opinion that having regard to the large amount due you, and the lien on the road you now possess, we can not advise you to consent to deliver up the road to the Great Western Railway Company or work it yourselves, or allow it to be worked by others, until your claims are either paid or secured in some proper way.

As it is now clear that the Wellington, Grey and Bruce Railway Company have exhausted every means in their power (except the issue of sidings bonds), to pay the balance due you, and that even after the additional Government Grant is taken into consideration a large balance will remain due you which must be met, we would suggest that you ask the Wellington, Grey and Bruce Board to embody these facts in a memorandum, to be transmitted to the Great Western Railway Executive here, suggesting the issue of these sidings bonds for the payment of the contractors. In making this suggestion, we assume that the Executive of the Great Western Railway are satisfied that it is right and proper to issue the sidings bonds, in order to pay the contractors, because if they are opposed to this scheme it is difficult to understand why you should be asked to run a serious risk without any consideration.

Yours truly,

(Signed) Martin & Bruce.

(Copy.)

Provincial Secretary's Office,
Toronto, 29th December, 1873.

Sir.—With reference to the application of the "Wellington, Grey and Bruce Railway Company" for aid from the Government to the Southern Extension of their line, I am directed to inform you that the Government desires that the question now at issue between your Company and the Corporation of the Town of Kincardine be first settled before a definite conclusion is arrived at with regard to the application. I am to add that the earlier this is set at rest the sooner the Government will be enabled to inform you officially of their action in the matter.

I have the honour to be, Sir,
Your obedient Servant,

(Signed) I. R. Eckart,
Assistant Secretary.

William McGiverin, Esq., President,
"Wellington, Grey and Bruce Railway Company," Hamilton.

(Copy.)

Canada Life Assurance Company's Buildings,
Hamilton, 3rd January, 1874.

Sir.—We are instructed to reply to your communication of the 29th ultimo to the President of the Wellington, Grey and Bruce Railway Company, informing him that with reference to their application for aid the Government desires that the question now at issue between that Company and the Corporation of the Town of Kincardine be first settled before a definite conclusion is arrived at.

Until receipt of your letter we were not aware that there was any dispute, much less a question at issue between this Company and the Corporation. When the Company applied originally for the grant, Messrs. Gray and Scott made some complaint in reference to what they considered a prior claim to a portion of the property, and induced the town council to interfere in their favour, but the matter was subsequently compromised to their satisfaction, and the Commissioner of Crown Lands, after giving the application of the Company his fullest consideration for a period of three months, and hearing all parties who claimed to have an interest, ordered the issue of the patent, most carefully guarding the interests of the public by providing that that portion of the reserve lying between the north limits of 7 produced, and the south pier of the harbour should be left open to the public, the Company having the right only to use the same for their tracks and necessary store-houses, giving the public all proper and necessary access to the harbour.

The matter was most carefully considered by the late Commissioner, who gave to the matter every care and attention, and if any claim has since his retirement been preferred we would respectfully suggest that, as the whole subject was investigated and decided by him, it should be referred to him for his Report.

The accommodation is very limited, much more so than is at all desirable, and any interference with this grant would be most injurious.

At present, however, the Company are entirely ignorant of the nature of the claims advanced, and we should be able to answer the matter more satisfactorily if furnished with it.

We have the honour to be, Sir,
Your's obediently,
(Signed) Burton, Bruce, and Walker.

The Hon. the Provincial Secretary, &c., &c., &c.,
Toronto.

SUPPLEMENTARY RETURN

Of Correspondence and Papers relating to the "Wellington, Grey, and Bruce Railway," subsequent to January 3rd, 1874.

By Command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 13th March, 1874.

Schedule of Correspondence and Papers relating to the "Wellington, Grey, and Bruce Railway."

1874.

February 3.—Letter from President of Company to the Hon. Provincial Treasurer, enclosing :
January 30.—Letter from Robert Baird, Kincardine, to Secretary of Company,
January 31.—Letter from W. G. Hay, Listowel, to Secretary of Company.
February 28.—Report of Hon. Provincial Treasurer.

(Copy.)

WELLINGTON, GREY, AND BRUCE RAILWAY,
ONTARIO, CANADA,
HAMILTON, February 3rd, 1874.

SIR,—In further reference to the application of this Company for $4,000 per mile of Government aid to the Southern Extension, on its entire length, from Palmerston to Kincardine, (66½ miles,) I beg to enclose for your information, letters from Mr. W. G. Hay, of Listowell, an extensive grain buyer, and a gentleman interested in the lumber business; and from Mr. R. Baird, Warden of the County of Bruce, likewise an extensive grain dealer, from which you may gather a slight idea of the inconvenience and loss to which the people of that section of country are subjected, by reason of the Southern Extension not being opened for traffic.

My letter of 15th December last will have informed you that the Great Western Railway Company had refused their consent to the issue of bonds on the sidings of our line, and that in consequence thereof, we were wholly unable to meet any portion of our large indebtedness, as per statement of 25th October last. The only source from which we can hope to obtain the means to satisfy the claims of our contractors and others, is by the grant of a further amount of Government aid, and even that will not pay them in full. Meanwhile, the line fully completed, and ready to be equipped and worked, remains idle, earning no portion of the amount required to meet the coupons on its bond issue, which are due 1st July next.

We are constantly receiving visits from merchants, and others living in and near the villages adjacent to the line, imploring us to open the line for traffic, that their grain and lumber and other materials may be carried to a market for sale, and themselves saved from bankruptcy and ruin.

I trust the Government of Ontario will see proper to put us in a position to accommodate and assist these people, by granting us the amount of aid asked for. Our contractors, who at present hold the line as security for their debt, refuse to allow trains to be run over it; but they would, I am satisfied, allow it to be operated at once, if the Order in Council were passed recommending to Parliament the grant of aid mentioned, and the Great Western Company, to whom the line is leased, are prepared to equip and work it, immediately the contractors signify their consent.

I have the honour to be, Sir,
Your obedient servant,
Signed,) WM. McGIVERIN
President.

The Hon. Adam Crooks, Q. C.,
Provincial Treasurer,
Toronto, Ont

OFFICE HARBOUR STREET,
KINCARDINE, January 9th, 1874.

DEAR SIR,—Will you kindly advise me how soon we may expect the Railway to open to this place from Palmerston; you have no idea of the inconvenience, and disappointment the people along the line have suffered, and will suffer on account of the line not being open.

Storehouses have been built, and grain of all kinds purchased, and now it lies on their hand with markets going down. Not only in this way, but all kinds of business suffer to a great extent by it, as well as the travelling community. When we granted the bonuses, we fully expected the road would be opened as soon as completed. I am pleased to hear from various quarters, that our Ontario Government will now grant your road a subsidy from Palmerston to Wingham to help you, and would fain hope, that in a few days your Company, or the Great Western, will open the road to Kincardine.

I remain,
Yours very truly,
(Signed,) ROBERT BAIRD.

Wm. McCulloch, Esq.,
Secretary and Treasurer, W. G. & B. R. Co., Hamilton.

LISTOWEL, 31st January, 1874.

DEAR SIR,—Your letter of the 21st was duly received, but left home next morning, and replying was over-looked until I received your Telegram to day; in reply would say that the loss to the country is very great, inasmuch as millmen are unable to stock their mills, on account of not being able to move lumber already on the line. There are also a number of storehouses for grain built at the different stations along the line, and as a matter of course, are lying idle, grain being teamed to markets on the G. T. Railway, costing the farmers much more to market it, than if the W. G. and B. was in operation. I have called the attention of a number of millmen, and no doubt you will hear from them. Any other information you may want if I can do it for you, I will be very glad to do it. Trusting you will be able to get more aid from the Government,

I remain,
Faithfully yours,
(Signed,) W. G. HAY.

W. McCulloch,
Hamilton.

MEMO:—The undersigned has had under consideration the application of the "Wellington, Grey, and Bruce Railway Company," asking that they receive aid under the Acts in that behalf from the Government, for that portion of their line of railway which lies between

Palmerston, on the main line, and Wingham, being a portion of their Southern Extension to Kincardine, and begs to report as following:—

By Order in Council, dated 25th March, 1872, payment was authorized to be made out of the Railway Fund to this Company, of a sum equal to $2,250 per mile, for that portion of its railway between Wingham and Kincardine, subject, among other things, to the Company giving the "London, Huron, and Bruce Railway Company," and the "Toronto, Grey, and Bruce Railway Company," respectively, running powers over that portion of its line. By the same Order in Council, payment was authorized to be made to the "Toronto, Grey, and Bruce Railway Company," of the like sum of $2,250 per mile, for that portion of its railway between Harriston and Wingham, subject to a similar condition with respect to running powers over that portion, in favour of the "Wellington, Grey and Bruce Railway Company."

The Wellington Company, for reasons stated in their communications to the Government, did not accept the benefit of this Order in Council; and on the 14th June, 1872, another Order in Council was passed by which, subject to ratification, payment was authorized to be made out of the Railway Fund to this Company, of a sum equal to $2,000 per mile of their railway between Wingham and Kincardine, and it was relieved of the condition as to giving running powers to the other Companies. On the 26th March, 1873, this order was ratified by resolution of the Legislative Assembly.

By Order in Council, dated 12th March, 1873, and ratified by resolution of the Legislative Assembly on the 18th of the same month, payment was authorized to be made out of the Railway Fund to the "Toronto, Grey, and Bruce Railway Company," of a sum equal to $2,000 per mile for their railway between Harriston and Wingham, freed from the condition as to running powers, in favour of the "Wellington, Grey, and Bruce Railway Company," and this amount of aid was authorized to be applied on the line between Harriston and Teeswater.

On the 4th December, 1872, the Corporation of the County of Bruce agreed to transfer to the "Wellington, Grey, and Bruce Railway Company," in aid of its Southern Extension, $20,000 of the debentures of the Corporation which, under the agreement between these parties, dated 9th November, 1871, were to become the property of the County.

This Company has completed its line from Palmerston to Kincardine *via* Wingham, but it is not yet open for traffic, inasmuch as the contractor retains control until the Railway Company can arrange for satisfying the unpaid claims he has against it under his contract. By a statement dated 25th October, 1873, the Company shows that there is a deficiency amounting to $143,377 22, in the amount necessary for the payment of the contractor, for rails, interest, and expenses in the construction of its Southern Extension line, after accounting for municipal bonuses amounting to $85,000, and the Government aid under the Order in Council of the 14th June, amounting to 56,000.

On the 6th December, 1873, the Company further verifies this statement as correctly representing its present debts and assets excepting the sum of $50,000 in London, England, a portion of which may contingently become available in reduction of the deficiency shown in this statement; and the company also states that all its bonds excepting those proposed to be used in respect of the sidings mileage on main line, and extension have been exhausted.

It appears that in respect of the portion of the line of the Company from Guelph to Harriston, (48 miles,) the Company did not obtain any provincial aid, being excluded by the terms of the act, and that the grant of aid is as follows:—

In respect of main line say	102¾ miles,	$107,000 for 53½ miles.
In respect of extension	66½ miles,	56,000 for 28 miles.
	169¼ miles,	$103,000 for 81½ miles,

being less than $1000 per mile, excluding the Railway allowance of $1000 per mile to the municipalities for the distance between Guelph and Harriston.

It appears from the statements of the Company corroborated by petitions from the several municipalities, and the ratepayers therein, through which the line of southern extension passes, that while the main line was under construction in the year 1871 representatives from the Municipalities of Ashfield, East Wawanosh, West Wawanosh, Turnberry, Elma, Grey, Morris, Wallace and Listowel induced the directors of the Company to enter upon the con-

struction of the branch to Kincardine by the route adopted as the one which would best serve the tract of country remote from other railways, and so best meet the wants of the inhabitants of these municipalities, on the understanding that municipal bonuses would be raised equal to $6,000 per mile to Lucknow, and that the directors of the Company were further assured by the then Government while the by laws for the municipal bonuses were yet before the ratepayers for approval, that if the ratepayers by their votes thereon showed their acceptance of this southern route, the Company should also receive aid therefor from the railway fund, and that the times limited in the by-laws forced the Company to prosecute the works on this line without waiting for definite action on the part of the Government. The several municipalities referred to, excepting East Wawanosh duly passed their by laws granting the per mile bonuses mentioned.

The Southern Extension is now completely constructed between Palmerston and Kincardine, and for the distance between Wingham and Kincardine, has been inspected by Mr. Molesworth, Civil Engineer, and the aid granted by Order in Council of 14th June, 1872, has been paid to the Company for that mileage distance; and the Company's position now is such, financially, that unless it receives aid in respect of the distance between Palmerston and Wingham, it will be unable to obtain possession of this line, so as to make it of any advantage to the country traversed by it, and all the resources of the Company are insufficient to meet the claim of the contractor, and it claims the same consideration for this portion of their line as that which was accorded to their main line. They show that it affords railway facilities to a larger tract of country than other lines which have been aided; and on the 26th February, 1872, by letter from the President of the Company, special grounds were submitted for the consideration of the Government, in order that it might obtain the aid now asked for the portion of line referred to, and the Government was then unable to accede to such application, for the reasons stated in the letter of the Provincial Secretary, 19th December, 1872. But these reasons lose their force now that the fact is established of the inability of the Company to meet the claims of their contractor, and to open the road in the service of the public, and that the benefit of the large amount of municipal aid, and that from the Railway Fund for the other portion of the line, will be deferred indefinitely, if not altogether lost, unless the Company can place the road in running order. It is now also established that this is the only line which has reached Kincardine, and that its former competitor for this point, viz., the "Toronto, Grey, and Bruce Railway," proposes to go no further, for some time, at least, than Teeswater. It also appears that the municipalities which contributed their bonuses to this portion of the line have not only borne their proportion of the general burden arising from aid given to the older railways, from which they derived no direct advantages, but that they have borne their share of the direct local assessment, in common with the other municipalities in the Counties of Huron and Bruce, in respect to their large advances towards the construction of the "Buffalo and Lake Huron Railway." It also appears that the policy on which the grant of aid was confined to the portion between Wingham and Kincardine was, to discourage the construction of competitive lines between the same or similar objective points, in order that the Railway Aid Fund might go as far as possible in securing to the several portions of the country, railway facilities. The line of the road actually completed by this Company, and the present line of the "Toronto, Grey, and Bruce Company," respectively, serve independent sections of country, and thus afford distinct railway service, and are no longer in conflict with the policy referred to.

It further appears that since the application of this Company for the grant of aid referred to, from a subsequent communication from the president of the Company dated 11th December, 1873, that the deficiency shown in the Company's statement of the 25th day of October last, and amounting to $143,377 22, will be increased by the sum of $158,100 00, which was heretofore assumed as an asset to arise from the proceeds of bonds intended to be issued in respect of 15½ miles of sidings, but which could only be issued after the consent of the "Great Western Railway Company" had been obtained (see Stat. Ont. 34 Vic., chap. 37, secs. 2 and 3.)

The President now states that this consent has been definitely refused, and the position of the Company is therefore materially changed for the worse, having to meet a deficit of more than $300,000. Although the line is fully completed and ready for equipment, the contractor under legal advice refuses either to arrange with the Company to operate the road himself, or to give the Company possession in order that it may do so; and great loss is eco-

sequently being sustained by the Company, and by all business and agricultural interests in proximity to the line.

The President also states that since the financial arrangements of the Company were originally made, a further charge of $80,000 has been sustained by the Company owing to the increase of the cost of iron and material, while the rate of labour had increased at least twenty-five per cent., and that the maximum amount of aid under the Railway Aid Act is not now more than an equivalent to the minimum grant at the time the Act was passed; and he therefore submits that his Company is justified in asking aid to the extent of $4,000 per mile on the whole length of the Southern Extension line.

Upon these new facts and changed circumstances, the undersigned has considered the renewed application of the Wellington Company for a grant of aid for the portion of their line between Palmerston and Wingham being a distance of about 38 miles; and recognising the importance of opening this line for traffic, and securing to the localities traversed by it the benefits intended when the ratepayers contributed by their bonuses so liberally for its construction, and the disastrous results which would be entailed upon a large district of the Province, should this line fail to afford it railway facilities, and considering also the policy approved of by the Legislature in the Municipal Loan Fund Debt Resolutions in extending provincial aid to all unaided portions of railways.

The undersigned would respectfully recommend that a grant of aid, so far as the railway aid and subsidy funds may be applicable thereto respectively, be made by your Excellency in Council, equivalent to $2,000 per mile for the distance between Palmerston and Wingham, subject to ratification by resolution of the Legislative Assembly, and subject to the line being actually in the possession of the Company, and in operation between Palmerston and Kincardine before any sum should be payable to the Company in respect of such grant of aid.

Respectfully submitted,
(Signed,) ADAM CROOKS,
Provincial Treasurer.

February 28th, 1874.

(No. 15.)

Report of the Senate of the University of Toronto for the Academic Year 1872 3. *(Not printed.)*

DETAILED STATEMENT

Of all Bonds and Securities recorded in the Provincial Registrar's Office since the last Return submitted to the Legislative Assembly upon the 13th of January, 1873, made in accordance with the Provisions of Statute of Ontario, 32 Vic., Cap. 29.

Presented by Command of His Excellency the Lieutenant-Governor.

C. F. FRASER,
Secretary and Registrar.

Provincial Registrar's Office,
3rd February, 1874.

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since last Return submitted to the Legislative Assembly, made in accordance with 32 Vic., Cap. 29, Sec. 15.

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond.	Penalty in Bond.	Date of Bond.	Remarks.
			$ cts.		
John O'Donohoe, Toronto.....	County Attorney of York	.....	1000 00	6 Nov. 1872	
		Thomas McCrosson, Toronto	500 00		
		John Herbert, do	500 00		
James Dingwall, Cornwall ...	County Attorney of Stormont, Dundas, and Glengarry...	.....	1000 00	13 Feb. 1873	
		Coryson Josephus Mattice, Cornwall	500 00		
		Andrew Hodge, do	500 00		
John McKeown, Hamilton...	County Attorney of Wentworth	.....	1000 00	2 Oct. 1873	
		James Atcheson Skinner, West Oxford	500 00		
William Featherstonhaugh, Penetanguishene.....	Bursar to Provincial Reformatory, Penetanguishene.....	Kenney Fitzpatrick, Hamilton	500 00		
		.....	4000 00		
		Alfred A. Thompson, Penetanguishene	2000 00		
		Philip H. Spohn, Penetanguishene..	2000 00		
Walter N. Hossie, Brampton	Bursar to the Institute for the Blind at Brantford	.....	1600 00	20 Sep. 1873	
		William Broddy, Brampton	800 00		
		John Leys, Sarnia.....	800 00		
Thomas Short, Keene	Accountant of the Central Prison, Toronto	.....	4000 00	24 July, 1873	
		James Hall, Peterborough	2000 00		
		Thomas Miller, Otonabee...	2000 00		
Daniel Lizars, Goderich	Issuer of Licenses, County of Huron	.....	2500 00	6 April, 1872	
		John Macara, Goderich	1250 00		
		John A. A. Wilkinson, Sandwich ...	1250 00		
Wm. Douglas, Chatham	Issuer of Licenses, County of Kent	.....	2000 00	2 Mar. 1872	
		Richard Monck, Chatham	1000 00		
		Alexander Young, do	1000 00		
James Stanton, St. Thomas...	Issuer of Licenses, County of Elgin	.....	1400 00	30 Nov. 1872	
		Henry Francis Ellis, St. Thomas ...	700 00		
		William Evans Liudop, do ...	700 00		
Wm. Grace, Lindsay	Issuer of Licenses, County of Victoria	.....	1000 00	5 Mar. 1872	
		James Heap, Lindsay	500 00		
		Lawrence Maguire, Lindsay	500 00		
James Jessup, Brockville.....	Registrar of Surrogate Court, United Counties of Leeds and Grenville	.....	800 00	17 July, 1873	
		William H. Jones, Brockville	400 00		
		James George Jessup, do	400 00		

Angus Bell, Creemore	Clerk of the 11th Division Court, County of Simcoe		500 00	11 Ap., 1873
		Donald Bell, Nottawasaga	250 00	
		Alex. Currie, do	250 00	
John Arthur Love, Township of Mulmur	Clerk of the 7th Division Court, County of Simcoe		500 00	11 do
		Wm. Walker, jr., Tp. of Mulmur	250 00	
		John Greer, do	250 00	
Adam Dudgeon	Clerk of the 4th Division Court, County of Simcoe		600 00	12 do
		Charles Gamon, Collingwood	300 00	
		Thomas Long, Merchant	300 00	
John Craig	Clerk of the 5th Division Court, County of Simcoe		500 00	14 do
		Joseph L. Rush, Craighurst	250 00	
		John Craig, jr., Tp. of Medonte	250 00	
Alex. Dugald Elliott, Petrolea	Clerk of the 8th Division Court, County of Lambton		1000 00	16 June, 1873
		Murdo McLeay, Watford	500 00	
		Robert McLeay, Warwick	500 00	
Henry Edward Jeffery, Penetanguishene	Clerk of the 9th Division Court, County of Simcoe		500 00	16 Ap., 1873
		Samuel D. Fraser, Township of Tay	250 00	
		Michael J. Mundy, Penetanguishene	250 00	
Thomas Dallas	Clerk of 6th Division Court, County of Simcoe		500 00	18 do
		Rev. John Gray, Village of Orillia	250 00	
		Frederick John R. Grant, do	250 00	
George Cunningham	Clerk of the 2nd Division Court, County of Victoria		200 00	
		Ranulph Edward Glanville, Township of Fenelon	100 00	17 May, 1873
		Jeremiah Twomey, Fenelon Falls	100 00	
Thomas R. H. Scott	Clerk of the 5th Division Court, County of Lambton		1500 00	13 do
		Henry M. Scott, Tp. of Plympton	750 00	
		Samuel Stoops, do	750 00	
William Henry Dickson	Clerk of the 3rd Division Court, County of Simcoe		500 00	19 Ap., 1873
		Thomas Fisher, Tp. of Tecumseth	250 00	
		James Riddel, do	250 00	
George McManus	Clerk of the 8th Division Court, County of Simcoe		500 00	11 do
		James Jackson, Tp. of Adjala	250 00	
		William Jackson, Tp. of Mono	250 00	
Thomas Lloyd	Clerk of the 1st Division Court, County of Simcoe		600 00	11 do
		Frederick Lloyd, Tp. of Oro	300 00	
		Henry R. A. Boys, Barrie	300 00	
Bartholomew White	Clerk of the 2nd Division Court, United Counties of Leeds and Grenville		400 00	2 Feb., 1872
		John Buckley, Prescott	200 00	
		James Buckley, Prescott	200 00	
James Reeves	Clerk of the 6th Division Court, County of Renfrew		1200 00	
		William James Warren, Township of Wilberforce	600 00	19 do
		A. McIntyre, Tp. of Wilberforce	600 00	
Robert Maconchy	Clerk of the 2nd Division Court, County of Simcoe		600 00	
		Chas. Wilson, Tp. of Tecumseth	300 00	15 Ap., 1873
		Joseph Lynd, W. Gwillimbury	300 00	

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since the last Return submitted to the Legislative Assembly, made in accordance with 32 Vic., Cap. 29, Sec. 15.—*Continued.*

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond.	Penalty in Bond.	Date of Bond.	Remarks.
			$ cts.		
George Dunn Rowe, Township of Madoc	Clerk of the 6th Division Court, County of Hastings		2000 00	6 Ap., 1873	
		John Tassie, Township of Madoc	1000 00		
		John N. Moore, do	1000 00		
John Warren Burnham, Oshawa	Clerk of the 3rd Division Court, County of Ontario		1000 00	30 Mar. 1872	
		John B. Warren, Oshawa	500 00		
		George H. Greison, do	500 00		
George Edward Bull	Clerk of the 5th Division Court, County of Hastings		2000 00	14 May, 1872	
		Solomon Johns, Tp. of Marmora	1000 00		
		Morgan Jellett, Belleville	1000 00		
Sam. McLean, Little Current	Clerk of the 3rd Division Court, District of Algoma		600 00	27 Ap., 1872	
		Wm. Griffiths, Little Current	300 00		
		Bryan Mackay, do	300 00		
George Eady, jr.	Clerk of the 3rd Division Court, County of Renfrew		1200 00	22 May, 1872	
		John Stewart, Township of Horton	600 00		
		Robert Eady, sr., do	600 00		
John Vivian, Bruce Mines	Clerk of the 2nd Division Court, District of Algoma		600 00	13 July, 1872	
		Thomas Marks, Bruce Mines	300 00		
		George Marks, do	300 00		
John Coucher Steele, Township of Oro	Clerk of the 10th Division Court, County of Simcoe		500 00	11 Ap., 1873	
		James Black, Township of Oro	250 00		
		Archibald Bell, do	250 00		
Wm. Chisholm Sumner	Clerk of the 1st Division Court, County of Grey		2000 00	6 Nov. 1872	
		Thomas Scott, Owen Sound	1000 00		
		William Miller, do	1000 00		
Joseph Dickey	Clerk of the 4th Division Court, County of Ontario		1500 00	12 July, 1872	
		James Isaac Dickey, Toronto	750 00		
		Nathaniel Dickey, do	750 00		
James Edward Walks	Clerk of the 4th Division Court, County of Ontario		500 00	5 Oct., 1872	
		David Walks, Uxbridge	500 00		
		John Stewart, do	500 00		
Robert Balmer	Clerk of the 2nd Division Court, County of Halton		500 00	22 Dec., 1872	
		John Barclay, Oakville	250 00		
		Werthington E. Hagarman	250 00		

Robert Morrison	Clerk of the 6th Division Court, County of Waterloo		200 00	14 Dec., 1872
		Jacob Winn, Tp. of Wellesley	200 00	
		Alexander Peterson, do	200 00	
John Hancock, Bruce Mines	Clerk of the 2nd Division Court, District of Algoma		400 00	18 Dec., 1872
		George Marks, Bruce Mines	200 00	
		Wm. H. Plummer, do	200 00	
Adolphus Walter Hann	Clerk of the 2nd Division Court, County of Welland		600 00	11 Feb. 1873
		Robert Crane, Tp. Wainfleet	300 00	
		Edward Lee, Welland	300 00	
Thomas Thwaite, Beachburgh	Clerk of the 2nd Division Court, County of Renfrew		1000 00	11 Jan. 1873
		Alexander Condie	500 00	
		George Surtees	500 00	
Robert Fuller	Clerk of the 8th Division Court, County of Norfolk		2000 00	19 Mar. 1873
		Robert Riddell, Port Dover	1000 00	
		E. H. Coryell, Petrolea	1000 00	
Robert Jamieson	Clerk of the 1st Division Court, County of Lanark		1600 00	15 Oct. 1873
		Wm. Lees, Township of Bathurst	800 00	
		Robert Jamieson, Township of Drummond	800 00	
John Lehman Wideman	Clerk of the 7th Division Court, County of Waterloo		200 00	1 Jan. 1873
		Moses Weber, Tp. of Woolwich	200 00	
		Henry Zinkan, do	200 00	
John Crisp Gurney	Clerk of the 8th Division Court, County of Renfrew		800 00	4 Mar. 1873
		Richard Acton, Tp. of Brudenell	400 00	
		Alfred Peel, do	400 00	
James Robertson	Clerk of the 10th Division Court, United Counties of Leeds and Grenville		1400 00	10 Ap. 1873
		James Millar, Edwardsburgh	700 00	
		Hugh Boyle, do	700 00	
John Cowan	Clerk of the 5th Division Court, County of Lanark		800 00	17 do
		Wm. Cowan, Village of Pakenham	400 00	
		James Cowan, do	400 00	
William Milne Keith	Clerk of the 4th Division Court, County of Lanark		800 00	16 Oct. 1873
		Henry Landon, Smith's Falls	400 00	
		Richard Locke, do	400 00	
Thomas Gordon	Clerk of the 12th Division Court, County of Simcoe		500 00	12 Ap. 1873
		Wm. Graham, Township of Toronto	250 00	
		John Graham, do	250 00	
Thomas Kirkpatrick	Clerk of 6th Division Court, County of Lambton		800 00	11 Sep. 1872
		James Cornell, Village of Thedford	400 00	
		Peter McCallum, Tp. of Bosanquet	400 00	
John Coucher Steele	Clerk of the 10th Division Court, County of Simcoe		500 00	11 Ap. 1873
		James Black, Township of Oro	250 00	
		Archibald Bell, do	250 00	

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since th[illegible]st Return submitted to the Legislative Assembly, made in accordance with 32 Vic., Cap. 29, Sec. 15.—*Cont[illegible]d*

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond.	Penalty in Bond.	[illegible]	[illegible]ond.	Remarks.
			$ cts			
John McFadyen	Bailiff of the 4th Division Court, County of Simcoe		500 00	[illegible]	1872	
		James Lindsay, Collingwood	250 00			
		John Nettleton, do	250 00			
Joseph Lanagan	Bailiff of the 3rd Division Court, County of Welland		400 00	[illegible]	, 1872	
		Wm. B Forsyth, Tp. of Bertie	200 00			
		Henry H. Smith, Fort Erie	200 00			
Wm. Alexander Silverwood	Bailiff of the 6th Division Court, County of Victoria		200 00	1	, 1872	
		Peter Brown, Tp. of Mariposa	100 00			
		Jesse Weldon, do	100 00			
John Allan	Bailiff of the 6th Division Court, County of Lambton		400 00	5	, 1872	
		John Watts, Tp. of Bosanquet	200 00			
		George W. Holwell, Thedford	200 00			
Julian Decay	Bailiff of the 7th Division Court, United Counties of Prescott and Russell		400 00	1	ay, 1872	
		Robert S. Park, Hawkesbury Vil	200 00			
		Vincent Lortie, do	200 00			
Peter McSweyn	Bailiff of the 1st Division Court, County of Victoria		500 00	7	, 1872	
		Peter H. Clark, Tp. of Eldon	250 00			
		Alexander Rodgers, do	250 00			
Angus McDonald	Bailiff of the 9th Division Court, United Counties of Stormont, Dundas and Glengarry		100 00	28	do	
		Alexander McDonald, Lancaster	50 00			
		John Downey, do	50 00			
John Adams Robertson	Bailiff of the 1st Division Court, United Counties of Stormont, Dundas and Glengarry		100 00	29	do	
		James Rayside, Charlottenburg	50 00			
		Julius Wait, Cornwall	50 00			
John E. Bleecker	Bailiff of the 1st Division Court, County of Hastings		1000 00	8	v, 1872	
		Washington W. Jones, Belleville	500 00			
		Michael McMahon, Tp. of Thurlow	500 00			
John Kerr, sr	Bailiff of the 6th Division Court, Counties of Leeds and Grenville		1400 00	18	do	
		Henry Mott, Tp. of Bastard	700 00			
		S. M. Ransom, Tp. of Lansdowne	700 00			
Robert Richmond	Bailiff of the 7th Division Court, County of Lambton		200 00	9	ec., 1872	
		Francis Creighton, Tp. of Moore	100 00			
		John McKinnon, do	100 00			

Robert Young	Bailiff of the 6th Division Court, United Counties of Prescott and Russell		400 00	24 Dec. 1872
		Daniel Campbell, Russell	200 00	
		Archibald Shelp, do	200 00	
Archibald McCallum	Bailiff of the 5th Division Court, United Counties of Prescott and Russell		400 00	3 Feb., 1873
		Donald McCallum	200 00	
		Robert Adams	200 00	
Thomas Cowan	Bailiff of the 5th Division Court, County of Oxford		1600 00	11 Mar. 1873
		James H. Hall, Tp. of Windham	800 00	
		Ed. F. Cowan, Tp. of Blenheim	800 00	
Thomas Cowan	Bailiff of the 3rd Division Court, County of Oxford		1600 00	14 do
		John Cameron, Woodstock	800 00	
		Alex. Ross, Tp. of North Oxford	800 00	
Henry Stingle	Bailiff of the 5th Division Court, County of Halton		500 00	17 do
		Robert Darby, Tp. of Nassagaweya	250 00	
		Henry Cargill, do	250 00	
Charles Lehman	Bailiff of the 4th Division Court, County of Perth		3000 00	20 do
		David Wachsell, Tp. of N. Easthope	2000 00	
		John Stewart, Shakespeare	2000 00	
William Stitt, jr.	Bailiff of the 10th Division Court, United Counties of Leeds and Grenville		1000 00	10 Ap., 1873
		William Stitt, Spencerville	500 00	
		Thomas Fairbairn, do	500 00	
Duncan McKerracher	Bailiff of the 1st Division Court, County of Lanark		400 00	22 do
		William Hossie, Tp. of Bathurst	200 00	
		John Hossie do	200 00	
James Gill	Bailiff of the 1st Division Court, County of Renfrew		1200 00	8 Oct., 1873
		Alex. Condie, Tp. of Westmeath	600 00	
		Daniel Ferguson, do	600 00	
Robert Miller	Bailiff of the 1st Division Court, County of Lambton		600 00	9 Mar., 1872
		John P. Brown, Tp. of Sarnia	300 00	
		Osborne Brown, do	300 00	
Benjamin Booth	Bailiff of the 4th Division Court, County of Lambton		800 00	4 July, 1872
		Andrew Smith, Village of Sombra	400 00	
		Isaac Booth, Township of Sombra	400 00	
Herman Tauber	Bailiff of the 5th Division Court, County of Perth		3000 00	27 May, 1872
		Val. Kercher, Tp. of Mornington	1500 00	
		James Strong, do	1500 00	
James Cairney	Bailiff of the 3rd Division Court, County of Renfrew		1200 00	22 do
		Patrick Ryan, Village of Renfrew	600 00	
		John Burns, do	600 00	
Henry Adams, jr.	Bailiff of the 1st Division Court, County of Ontario		1000 00	26 Mar. 1872
		Henry Adams, Whitby	500 00	
		Michael O'Donovan, Whitby	500 00	
Frederick Armstrong	Bailiff of the 5th Division Court, County of Grey		1000 00	3 Sep., 1872
		Joseph Strain, sr., Tp. of Artemesia	500 00	
		Jeremiah Piper, do	500 00	
John L. Watkis	Bailiff of the 3rd Division Court, County of Ontario		1000 00	30 Mar. 1872
		James H. Cochrane, Whitby	500 00	
		William Thompson, do	500 00	

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since the last Return submitted to the Legislative Assembly, made in accordance with 32 Vic., Cap. 29, Sec. 15.—*Continued.*

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond.	Penalty in Bond.	Date of Bond.	Remarks.
			$ cts.		
James D. Fralick	Bailiff of the 4th Division Court, County of Welland		1000 00	15 May, 1872	
		John C. Wilson, Tp. of Stamford	500 00		
		James Crane, Tp. of Willoughby	500 00		
Stephen Garratt	Bailiff of the 1st Division Court, County of Hastings		2000 00	6 Mar. 1872	
		David D. Bogart, Belleville	1000 00		
		Michael McMahon, do	1000 00		
Alexander Paterson	Bailiff of the 10th Division Court, County of Simcoe		250 00	14 Ap., 1873	
		John McCuaig, Township of Oro	125 00		
		Thomas Guthrie, do	125 00		
Robert Robinson	Bailiff of the 12th Division Court, County of Simcoe		250 00	11 do	
		John Fletcher, Township of Essa	125 00		
		George Fletcher, do	125 00		
Alfred Sneath	Bailiff of the 9th Division Court, County of Simcoe		200 00	16 do	
		Alf. A. Thompson, Penetanguishene	100 00		
		Archibald Dunlop, do	100 00		
Wm. Robert Langtry	Bailiff of the 11th Division Court, County of Simcoe		300 00	11 do	
		George Webster, Township of Nottawasaga	150 00		
		John Coupland, Tp. of Nottawasaga	150 00		
Joseph Swan	Bailiff of the 5th Division Court, County of Simcoe		200 00	14 do	
		John McLean, Craighurst	100 00		
		Alexander Richardson, Craighurst	100 00		
Samuel Wallace	Bailiff of the 8th Division Court, County of Simcoe		200 00	11 do	
		Wm. Wallace, Tp. of Amaranth	100 00		
		Henry Meredith, Orangeville	100 00		
James Donaldson	Bailiff of the 6th Division Court, County of Simcoe		200 00	12 do	
		Athenis King, Orillia	100 00		
		James Quinn, do	100 00		

John Hare	Bailiff of the 7th Division Court, County of Simcoe		250 00	12 Ap.,	1873
		Francis Gowan, Township of Nottawasaga	125 00		
		William Gowan, Township of Nottawasaga	125 00		
John Butter	Bailiff of the 5th Division Court, County of Hastings		2000 00	13 June,	1873
		Peter Chaud, Sterling	1000 00		
		Albert Chand, Tp. of Rawdon	1000 00		
James Thompson	Bailiff of the 4th Division of Court, County of Simcoe		2000 00	7 do	
		George Moberly, Collingwood	1000 00		
		John Hogg, do	1000 00		
Henry William Manning	Bailiff of the 2nd Division Court, County of Simcoe		250 00	11 Ap.,	1873
		James Manning, Tp. of Tecumseth	125 00		
		John Boddy, Bradford	125 00		
Stephen Howard Washburn.	Bailiff of the 3rd Division Court, County of Simcoe		200 00	9 do	
		Robert Mitchell Tp. of Tecumseth	100 00		
		John Abernethy, do	100 00		
John McFadyen	Bailiff of the 4th Division Court, County of Simcoe		200 00	12 do	
		James Lindsay, Collingwood	200 00		
		John Nettleton, do	200 00		
Henry William Manning.	Bailiff of the 3rd Division Court, County of Simcoe		200 00	28 do	
		Thos. R. Ferguson, Tp. of Innisfil	100 00		
		Wm. D. Stoddart, Township of W. Gwillimburg	100 00		
Alexander Morrow	Bailiff of the 1st Division Court, County of Simcoe		300 00	16 do	
		Archibald C. Thomson, Barrie	150 00		
		James L. Burton, Barrie	150 00		
John A. Macdonell	Bailiff of the 3rd Division Court, United Counties of Stormont, Dundas and Glengarry		200 00	9 May,	1873
		Donald McDonell, Cornwall	200 00		
		David Eugene McIntyre, Cornwall.	200 00		
Wm. Henry Hill	Bailiff of the 5th Division Court, County of Lanark		800 00	26 do	
		John Lowe, Village of Pakenham	400 00		
		Michael Lynch, do	400 00		
Charles Wright Cowan	Bailiff of the 1st Division Court, County of Oxford		1600 00	28 June,	1873
		Jeremiah Cowan, Tp. of Blenheim.	800 00		
		Thomas Mumford, Tp. of Blandford	800 00		
Alexander Sager	Bailiff of the 11th Division Court, County of Hastings		500 00	16 Jan.	1873
		J. Charles Wall	250 00		
		Oliver C. Frost	250 00		

DETAILED STATEMENT of all Bonds and Securities registered in the Provincial Registrar's Office since the last Return submitted to the Legislative Assembly, made in accordance with 32 Vic., Cap. 29, Sec. 15.—*Concluded.*

Name of Principal.	Office of Appointment.	Names and Residences of Sureties in Bond.	Penalty in Bond.	Date of Bond.	Remarks.
			$ cts.		
Joseph Graham, Bobcaygeon	Crown Land Agent	The Canada Guarantee Company ...	500 00	1 Mar. 1873	
			Covenant		
John Ridout, Toronto	Registrar of the South Riding of York		4000 00	1 Aug. 1873	
		Canada Guarantee Company*	4000 00		* Substituted in place of Percival Ridout.
John Macbeth, London	Deputy-Clerk of the Crown, County of Middlesex		1200 00	26 Jan. 1873	
		Andrew Cleghorn, London	600 00		
		James Shanly*	600 00		* Substituted in place of Alexander Anderson.
Lorenzo Dulmage Raymond, Welland	Issuer of Law Stamps, County of Welland		200 00	21 Nov. 1873	
		Daniel Wilson, Welland	100 00		
		John Dunigan, do	100 00		
Julius Pousett Bucke, Sarnia.	Issuer of Law Stamps, County of Lambton		300 00	24 do	
		John A. Mackenzie, Sarnia	150 00		
		Edward W. Poussett, do	150 00		
Hugh Hamilton, Township of Turnberry	Crown Land Agent		2000 00	11 Dec. 1872	
		John Gemmell, Tp. of Turnberry	1000 00		
		James Wylie, do	1000 00		
		William Douglas, do	1000 00		

(No. 17.)

STATEMENT of the affairs of the Toronto Life Assurance and Tontine Company, for the year 1873. *(Not printed.)*

RETURN

Of correspondence and papers relating to the "Credit Valley Railway" subsequent to that printed in Sessional Papers of 1873.

By Command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 9th February, 1874.

SCHEDULE of papers and correspondence relating to the "Credit Valley Railway."

1873.
March 25.—Letter from President of Company to Hon. Provincial Secretary.
March 29.—Letter from Assistant Provincial Secretary to President of Company, enclosing—
March 26.—Copy of Order in Council.
April 8.—Letter from President of Company to Provincial Secretary.
Petition of Company.

(Copy.)

CREDIT VALLEY RAILWAY, PRESIDENT'S OFFICE,
TORONTO, 25th March, 1873.

SIR,—I acknowledge the receipt of your favour of the 24th instant, and in reply beg to say that the "Credit Valley Railway" was originally projected and subsidized by various municipalities for the development of such local, agricultural, manufacturing and commercial interests along its route as were not otherwise secured, or could not be developed without railway facilities.

This is especially true of the manufacturing power of the River Credit, and that branch of the line which is to connect with the "Wellingtou, Grey and Bruce Railway" at Fergus, thereby placing the manufacturing power of the River Credit at the service of the whole agricultural community resident on the line of the "Wellington, Grey and Bruce Railway," as well as affording a more direct route to the City of Toronto and the seaboard markets, than that around by Harrisburg, which, as a matter of course, would save them for all time to come the extra freight required for the carriage of passengers and produce some seventy miles extra distance.

The motive power of the River Credit, which cannot be utilized without railway facilities, is a foundation for a vast increase of population and wealth to the country.

Our company have only petitioned the Government for railway aid to the first section of their railway, and for which they have obtained the complement of municipal bonuses.

For that section of the railway which is to traverse the Township of Erin, and terminate at Elora, the company have not petitioned for assistance, as they have not yet been able to enter into arrangements for the bonuses.

The company have not petitioned for aid to extend their railway westwards from Campbellville or the Brock road, because as yet the company is not chartered further than Galt, and it was deemed inexpedient to ask for a bonus from the Town of Galt, without being in a position to do so simultaneously from the Township of Dumfries.

As soon as the company has obtained the charter to enable them to build to St. Thomas, they will then prosecute with diligence the acquirement of the bonuses necessary from the

municipalities to enable the company to build to St. Thomas, and also to connect their line with the Norfolk Railway, which it is proposed to join with the Credit Valley Railway in the Township of Beverley. The said Norfolk Railway, when completed, will be a link through Brantford, connecting the Canada Southern Railway with the Credit Valley Railway.

The same diligence will be used to obtain the bonuses necessary to connect with the "Wellington, Grey and Bruce Railway" at Fergus, and the company hope to be in a position at next session of Parliament to show that they have obtained sufficient support from the municipalities to justify them in petitioning for aid from this portion of the line, and not included in the present petition.

The company recognize the fact that the Credit Valley Railway aims at the complete service of the local or Canadian trade, and it is with a view of escaping from the thraldom of the great through traffic lines now so overburdened with American traffic that they cannot attend to the local wants of the country, that the municipalities have so liberally taxed themselves to obtain the "Credit Valley Railway," as a means of redress against the evils of the great through lines.

The attention of the Government is respectfully requested to that clause in the charter of the company which forbids the carriage of through traffic in the rolling stock of the company, at a less rate per mile than is charged for local traffic, nevertheless this company are very anxious to complete the financial programme to connect with the Wellington, Grey and Bruce Railway and the Canada Southern Railway to make their railway a highway for the rolling stock of such other lines as may find it necessary.

I need only state that the rate of freight on the Great Western Railway from points in the County of Oxford, and on the Grand Trunk from points in the County of Perth, are about double the rate of through rates on American products from the State of Michigan, to show the necessity of a more ample protection by competition and legislation, for the rights of the people of Ontario who have been taxed directly or indirectly for the formation of these railways.

The company, with a view to the strictest economy in the construction of their railway, are building the road without the intervention of large contractors, and trust that the Government, in view of the large proportion of the population to be served by the Credit Valley Railway, will find it in accordance with their policy to grant a liberal subsidy in its aid.

I am, Sir,

Your obedient servant,

G. LAIDLAW,
President.

Honourable T. B. Pardee,
Provincial Secretary.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 29th March, 1873.

SIR,—I have the honour to transmit herewith a copy of an Order in Council, approved of by His Excellency the Lieutenant Governor, the 26th day of March, A.D. 1873, relating to the application of the "Credit Valley Railway Company," for aid, under the Act in Aid of Railways.

I have the honour to be, Sir,

Your obedient servant,

I. R. ECKART,
Assistant Secretary.

Geo. Laidlaw, Esq.,
President,
"Credit Valley Railway,"
Toronto.

(Copy.)

COPY of an Order in Council, approved by His Excellency the Lieutenant-Governor, the 26th day of March, A.D. 1873.

The Committee of Council have had under consideration the application of the "Credit Valley Railway Company" for aid, under the Acts in Aid of Railways, and they advise that,

subject to the ratification of this Order in Council by the Legislative Assembly (in default of which ratification this Order in Council is inoperative), payment be authorized to be made out of the "Railway Subsidy Fund," to the company of the sum of $184 40 per mile, of that portion of the line of the company's railway between Toronto and the intersection with the said railway of the Brock Road, in the Township of Puslinch, such sum to be payable by even half-yearly payments of $92 20 each, on the 30th day of June and the 31st day of December, in each and every year, during the period of twenty years, computed from the 1st day of January, 1872, and to the full end thereof. And the Committee further advise that the said grant of aid be upon the following conditions, that is to say:

First. On condition that the said company shall, on or before the 1st day of December next, furnish proof to the satisfaction of the Lieutenant Governor in Council, of the existence of a *bona fide* and sufficient contract for the completion of the works (exclusive of track laying) on that portion of their railway extending from Toronto to St. Thomas, *via* Galt and Woodstock.

Second. On condition that His Excellency in Council may, before the first day of January next, direct that payment be made to the said company out of the Railway Fund, at the rate of $2,000 per mile of the said portion of railway between Toronto and St. Thomas *via* Galt and Woodstock, instead of the said annual mileage rate of $184 40, at the option of the Lieutenant-Governor in Council, and the Committee further advise that (subject as aforesaid) payment be authorized to be made out of the "Railway Subsidy Fund," to the company of the like sum of $184 40 per mile, of that portion of the line of the company's railway between Streetsville and Alton, such sum to be payable in the like half-yearly sums of $92 20 each on the respective days aforesaid, during the said period of twenty years, under and subject to the like conditions as are hereinbefore expressed with reference to the said portion of the railway between Toronto and the Brock Road, including the said condition which gives the Lieutenant-Governor in Council an option of paying at the rate of $2,000 per mile, but excluding the condition as to proof of contract for the completion of the works between Toronto and St. Thomas, but subject to proof being furnished to the satisfaction of the Lieutenant-Governor in Council, of the existence of a *bona fide* and sufficient contract for the completion of the works (exclusive of track laying) on the said portion of railway between Streetsville and Alton.

And the committee further advise that payment be authorized in respect of any portion of the company's railway between the said points respectively, not less than twenty miles in length, on the fulfilment of the conditions of the Act as to such portion, and with respect to the portion of railway firstly hereinbefore mentioned, on proof to the satisfaction of the Lieutenant-Governor in Council of the existence of a *bona fide* and sufficient contract for the completion of the works (exclusive of track laying) between Toronto and St. Thomas, and with respect to the portion secondly mentioned of the like proof of a contract for the completion of the works between Streetsville and Alton.

Certified,

(Signed) J. G. Scott,
Clerk Executive Council,
Ontario.

(Copy.)

Credit Valley Railway,
Toronto, 8th April, 1873.

Sir,—I have the honour to acknowledge the receipt of a copy of an Order in Council, approved by his Excellency the Governor in Council, the 26th March, 1873, relative to the application of the "Credit Valley Railway Co." for aid, under the Acts in aid of railways.

I have the honour to be, Sir,
Your obedient servant,
(Signed) G. Laidlaw,
President, C. V. R.

Hon. T. B. Pardee,
Provincial Secretary,
Toronto.

(Copy.)

To His Excellency the Honourable JOHN CRAWFORD, *Lieutenant-Governor of the Province of Ontario, in Council.*

The Petition of the Credit Valley Railway Company

HUMBLY SHEWETH :—

That by an Order in Council bearing date the twenty-sixth day of March, A. D. 1873, an annual payment was (subject to the approval of Parliament) authorized to be made out of the Railway Subsidy Fund, of one hundred and eighty-four dollars and forty cents per mile, of that portion of your Petitioners' line lying between Toronto and the intersection of your Petitioners' railway by the Brock road, in the Township of Puslinch ; also of one hundred and eighty-four dollars and forty cents per mile for that portion lying between Streetsville and Alton ; also of one hundred and eighty-four dollars and forty cents per mile for that portion lying between Toronto and St. Thomas. The said payments were however made upon condition that your Petitioners should, before the first day of December, A. D. 1873, furnish proof to the satisfaction of your Excellency in Council, of the existence of a *bona fide* contract for the completion of the works, exclusive of track laying, on the said portions respectively.

The said Order in Council also reserved to your Excellency the right to substitute a cash payment of two thousand dollars per mile for the said sections, instead of the said annual grant of one hundred and eighty-four dollars and forty cents per mile.

At the time the said Order in Council was made, it was the intention of your Petitioners to have their works constructed by contract, in the usual way, but they subsequently found it to their advantage to construct the said road themselves, without the intervention of contractors ; and they are now so engaged, and they believe that they will thereby effect a great saving in the cost of the said works.

Your Petitioners therefore pray that, subject to proof of the *bona fides* of your Petitioners in the premises, the said Order in Council may be so amended as to meet the exigencies of their case.

Your Petitioners also pray that your Excellency in Council may be pleased to exercise the right reserved to you by the said Order in Council, to substitute a cash payment in lieu of the said annual grant, or that the said Order in Council may be amended, by providing for a cash payment instead of an annual grant, the said annual grant being, under the peculiar circumstances in which your Petitioners are placed, of no very great practical advantage.

Your Petitioners also show that the said annual grant of one hundred and eighty-four dollars and forty cents per mile, or the said cash payment of two thousand dollars per mile, is, under the altered state of things which now exists, affecting the cost of building railroads in Canada, and particularly with reference to that portion of their road which lies between the points hereinafter mentioned, inadequate and insufficient; and your Petitioners therefore pray that for that portion of their line which extends from the forks of the River Credit, *via* Erin, Hillsburg, Douglas and Fergus, to the Villages of Elora and Salem, and also for that portion consisting of five miles, which extends northwards from the forks of the River Credit *via* the Village of Cataract, where engineering difficulties of no ordinary magnitude have to be overcome, and also for that portion which extends from the Village of Alton to the Village of Orangeville, aid may be granted to the extent of at least three thousand dollars per mile.

And your Petitioners also pray that your Excellency in Council may be pleased to reconsider the entire grant hereinbefore by the said Order in Council authorized to be made to your Petitioners, and, if possible, to increase the same ; the minimum grant of two thousand dollars per mile fixed by the Railway Aid Act being, under the altered state of things now existing, insufficient for the purposes thereby intended.

And your Petitioners will ever pray, &c.

C. J. CAMPBELL,
V. P.

[L. S.]

J. G. CONLIN
Secretary and Treasurer

SUPPLEMENTARY RETURN

Of Correspondence and Papers relating to the "Credit Valley Railway," subsequent to 9th February, 1874.

By Command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
Toronto, 16th March, 1874.

Schedule of correspondence and papers relating to the "Credit Valley Railway."

1874.

Memo. from President of Company to Hon. Provincial Treasurer.
March 13.—Letter from Henry Kinloch to President of Company.
March 14.—Letter from President of Company to Hon. Provincial Secretary.
March 16.—Letter from Assistant-Secretary Eckart to President of Company.
March 16.—Letter from President of Company to Hon. Provincial Secretary.

Memo.—*Re* Credit Valley Railway.

Distances.

Toronto to St. Thomas	120	miles
Streetsville to Alton	30	"
Alton to Orangeville	6	"
Forks of Credit to Elora	30	"
Total mileage	186	

Bonuses.

City of Toronto	$100,000
County of Peel	70,000
" " Halton	75,000
" " Oxford	200,000
" " Waterloo	110,000
" " Wellington	135,000
Village " Streetsville	20,000
Town " Milton	30,000
" " Town of Brampton	20,000
	$760,000
Bonuses expected (principally from County of Elgin)	170,000
	$930,000
Bonuses in shape of right of way and material by Towns of Ingersoll and Woodstock—say	50,000
Private bonuses, in the shape of individual aid by way of right of way, material, and cash	25,000
	$1,005,000

Bonus voted by the Government—Toronto to St. Thomas, and Streetsville to Alton, 150 miles, $2,000 per mile	$300,000
Bonus expected from the Government for the distance between the Forks of the Credit to Elora, and from Alton to Orangeville, $3,000 per mile, 36 miles...	108,000
And an additional $1,000 per mile for the line between Toronto and St. Thomas, and Streetsville to Alton	150,000
	$1,563,000
Stock (nominally)	500,000
Bonds authorized to be issued by the charter, $12,000 per mile	2,232,000
	$4,295,000

G. LAIDLAW,
President, Credit Valley Railway.

Hon. Adam Crooks,
Treasurer, Ontario.

DEPARTMENT OF ATTORNEY-GENERAL, ONTARIO,
TORONTO, 13th March, 1874.

DEAR SIR,—On reference to the papers connected with the application of the "Credit Valley Railway Company" for aid from the railway funds, it appears that you are under a misapprehension as to the effect of the Order in Council of the 26th March, 1873, and I am directed to point out to you that it comprises two portions—one, Toronto to the intersection of the Brock Road, and the other, between Streetsville and Alton. It will be necessary for you to furnish at once the requisite data for considering an extension of the grant from either of the last-mentioned points. Please send to the Provincial Secretary, without delay, whatever information on this subject you may deem proper to supply.

Yours truly,
(Signed) HY. KINLOCH,
Secretary E. C.

Geo. Laidlaw, Esq.,
Credit Valley Railway Company, City.

CREDIT VALLEY RAILWAY, PRESIDENT'S OFFICE,
TORONTO, 14th March, 1874.

SIR,—Referring to your favour of the 13th March in regard to the Order in Council, passed last year, I have to say that the Company have considered that Order to cover the whole length of the line to St. Thomas. Since the Order was issued, we have had voted to the Company, or in aid of the railway by a section of the County of Waterloo, $110,000, and by a section of the County of Oxford, $200,000, and we expect from St. Thomas and a section of the County of Elgin, $150,000 more.

The Company are making extensive preparations to hurry forward the construction of their railway this summer, by the employment of a large number of men.

There are now at work on the line about 350 men.

I have the honour to be,
Your obedient servant,
(Signed) G. LAIDLAW,
President, C. V. R.

Hon. C. F. Fraser,
Provincial Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 16th March, 1874.

SIR,—I am directed to mention that the application of the "Credit Valley Railway Company" for increased aid, and also for aid to other portions of the line has been under the consideration of the Government. Upon reference to the Order in Council of 26th March

1873, you will find that the portions for which a grant of aid was made by that Order, are from Toronto to the Brock-road, subject to the condition that proof of a *bona fide* contract for the completion of the works to St. Thomas, and also in reference to the portion between Streetsville and Alton, should be submitted to His Excellency the Lieutenant-Governor in Council, before the first day of December, 1873. It could only be in respect of the line to connect Lake Ontario at Toronto with Lake Erie, at or near St. Thomas, that your application would fall within the class of railways to be aided under the Railway Acts, and the Streetsville Branch to Alton was upon a similar consideration in reference to a connection leading to Lake Huron. It is doubtful therefore whether your application for the portion between Alton and Elora could be recommended. In the meantime your financial scheme for the construction of the road between Toronto and St. Thomas and to Alton is imperfect. On referring to my letter of this date to you, in reference to the "Victoria Railway Company," you will find the requisites of the financial programme. Before your application can be satisfactorily considered, the information should be specific as to municipal bonuses, stock subscriptions, and all other resoures. The condition as to proof of contract for the construction of the line between Toronto and St. Thomas, is one of similar import to that required in all other cases of aid, and the Government does not see that there is ground for recommending the waiver of this condition unless some equivalent guarantee is given in order to secure the probable completion of the road to St. Thomas. The time for this may, if you desire it, be extended to the first of December next.

I have the honour to be, Sir,
Your obedient servant,
(Signed) I. R. Eckart,
Assistant-Secretary.

George Laidlaw, Esq., President,
Credit Valley Railway Company.

Credit Valley Railway, President's Office,
Toronto, March 16th, 1874.

Sir,—I have the honour to acknowledge your favour of this date, in regard to the aid or grant sought for to the "Credit Valley Railway."

The Company have been hitherto under the impression that the Order in Council covered the whole district, from the City of Toronto to the Town of St. Thomas, as proof of contract for that distance was included in the Order in Council. Also for the distance between Streetsville and Alton.

The Company, anxious to economise all their resources, have been most successful in prosecuting the construction of the railway, subject to the immediate supervision of the Company, with a view to save the large profits demanded by contractors for such works; certainly any contract made with a contractor from the tenor of the Order in Council, would have included the assignment to him as part payment, the Government aid voted—as was supposed —the whole way to St. Thomas.

The company certainly consider that the saving effected by them, over and above the contract prices, is nearly equivalent to the proposed Government aid, all of which will be required to enable the Company successfully to complete their road.

Regarding that portion of the railway between the Forks of the Credit and the Village of Elora, it points to Lake Huron in one direction, as definitely as the line to Alton points to it in another.

The line to Alton was for the purpose of connecting with the "Toronto, Grey, and Bruce Railway," and affording the people along its route the advantages of the milling and manufacturing power of the river Credit; and the line to Elora has been subsidized by a section of the County of Wellington, to the extent of $135,000, for the purpose of creating a channel of communication for shipment, *via* the St. Lawrence, as against the channel, by the Great Western and the Suspension Bridge, and also affording to the people along the whole of the line of the "Wellington, Grey and Bruce Railway," direct access to Toronto and eastern markets, by a railway of the same gauge. The very large subsidies, granted by great majorities in the Counties to be traversed by the proposed "Credit Valley Railway," is the best evidence of public opinion as to its future value to the country.

The following is a list of the bonuses already granted in aid of the "Credit Valley Railway":—

City of Toronto	$100,000
County of Peel	70,000
" " Halton	75,000
" " Oxford	200,000
" " Waterloo	110,000
" " Wellington	135,000
Town of Brampton	20,000
" " Milton	30,000
Village of Streetsville	20,000
Total granted	$760,000
Still to be obtained, right of way and material from Woodstock and Ingersoll, equivalent to	50,000
Obtained, and to be obtained from private individuals and corporations	25,000
From a section of the County of Elgin, including St. Thomas	150,000
From Puslinch	12,000
From the Villages of Fergus, Elora, and Orangeville	15,000
Total	$1,012,000

Or $5,500 per mile, exclusive of Government aid, and stock estimated at $3,500 per mile, or a total of $9,000 per mile; bonds authorized to be issued, $12,000 per mile, or in all $21,000 per mile.

Stock originally subscribed $81,000, now authorized by the amending Act to be increased to $500,000, to be applied in part payment for right of way, material, and services, as per the amended Act.

Regarding the proof of contract, I have only to say on behalf of the Company, that as the Company are building the road without contractors they can give no proof of contract, but only ask for Government aid as it is usually granted upon the completion of certain portions of the work. The Company have now employed 350 men, and were prepared, subject to the hope of Government aid required, to employ 1,200 to 1,500 more men during the approaching season.

I have the honour to be, Sir,
Your obedient servant,
(Signed) G. LAIDLAW,
President, C.V.R.

Hon. C. F. Fraser,
Provincial Secretary.

RETURN

To an Address of the Legislative Assembly, to His Excellency the Lieutenant-Governor, praying that he will cause to be laid before the House copies of all Correspondence with the Dominion Government with reference to the Acts of incorporation of the Orange Associations of Eastern and Western Ontario, and all Orders in Council and Papers in connection therewith.

By Command,

C. F. FRASER,
Secretary.

Provincial Secretary's Office,
Toronto, 16th February, 1874.

Schedule of Correspondence with the Dominion Government relating to the Acts of incorporation of the Orange Associations of Eastern and Western Ontario.

1873.

Sept. 9.—Letter from the Hon. the Secretary of State, to His Hono the Lieutenant-Governor of Ontario, enclosing

Aug. 26.—Report of Sir John A. Macdonald, Minister of Justice.

" 29.—Copy of Order in Council.

Dec. 16.—Report of Hon. O. Mowat, Attorney-General of Ontario.

Department of the Secretary of State,
Ottawa, 9th September, 1873.

Sir,—I have the honour, by command of His Excellency the Governor-General, to transmit to you herewith, for the information of your Government, a copy of an Order of His Excellency in Council, and of the Report of the Hon. the Minister of Justice, therein referred to, on the subject of two Acts of the Legislature of the Province of Ontario, passed during the late Session thereof, entitled respectively, "An Act to incorporate the Loyal Orange Association of Western Ontario," and an "Act to incorporate the Loyal Orange Association of Eastern Ontario," and reserved by you for his Excellency's assent.

I have the honour to be,
Sir,
Your most obedient servant,
(Signed) J. C. Aikins.
Secretary of State.

To His Honour
The Lieutenant-Governor of Ontario,
Toronto.

DEPARTMENT OF JUSTICE,
OTTAWA, August 26th, 1873.

The undersigned has had under consideration two Acts passed by the Legislature of the Province of Ontario, at its last Session, entitled respectively, "An Act to incorporate the Loyal Orange Association of Western Ontario," and "An Act to incorporate the Loyal Orange Association of Eastern Ontario," which were reserved by the Lieutenant-Governor, for the assent of your Excellency, and now begs leave to report, that these Acts purport to incorporate two Provincial Associations.

That the only object of these associations appearing on the face of the Acts, is the holding of property, real and personal, and, this being a Provincial object, the Acts are within the competence and jurisdiction of the Provincial Legislature. Such being the case, in the opinion of the undersigned, the Lieutenant-Governor of Ontario ought not to have reserved these Acts for Your Excellency's assent, but should have given his assent to them as Lieutenant-Governor.

Under the system of Government which obtains in England as well as in the Dominion and its several provinces, it is the duty of the advisers of the Executive to recommend every measure that has passed the Legislature for the Executive assent.

The provision in the "British North America Act, 1867," "that your Excellency may reserve a Bill for the signification of Her Majesty's pleasure," was solely made with the view to the protection of Imperial interests and the maintenance of Imperial policy, and in case your Excellency should exercise the power of reservation conferred upon you, you would do so in your capacity as the Imperial officer, and under the Royal instructions. So, in any Province, the Lieutenant-Governor should only reserve a Bill in his capacity as an officer of the Dominion, and under instructions from the Governor-General.

The Ministers of the Governor-General and of the Lieutenant-Governor are alike bound to oppose in the Legislature measures of which they disapprove, and if, notwithstanding, such a measure is carried, the Ministry should either resign or accept the decision of the Legislature, and advise the passage of the Bill. It then rests with the Governor-General or the Lieutenant-Governor, as the case may be, to consider whether the Act conflicts with his instructions or his duty as an Imperial or a Dominion officer, and if it does so conflict, he is bound to reserve it, whatever the advice tendered to him may be, but if not, he will doubtless feel it his duty to give his assent, in accordance with advice to that effect which it was the duty of his Ministers to give. With respect to the present measures, the undersigned is of opinion that the Lieutenant-Governor might not to have reserved them for your Excellency's assent, as he had no instructions from the Governor-General in any way affecting these Bills. They are entirely within the competence of the Ontario Legislature, and if he had sought advice from his legal adviser, the Attorney-General of Ontario, on the question of competence, he would undoubtedly have received his opinion that these Acts were within the jurisdiction of the Provincial Legislature. This is evident from the fact that (as appear by the votes and proceedings of the Legislature) the Attorney-General voted for, and supported the Bills, as a member of the Legislature. Under these circumstances, the undersigned recommends that the Lieutenant-Governor be informed that your Excellency does not propose to signify your pleasure with respect to these reserved Acts, or to take any action upon them. The Legislature will, at its next session, which must meet before the expiration of the year within which, by the constitution, your Excellency has the power to signify your pleasure, have the power, if it pleases, of considering these measures anew, and re-enacting them or rejecting them at its discretion.

If these Acts should again be passed, the Lieutenant-Governor should consider himself bound to deal with them at once, and not ask your Excellency to intervene in matters of Provincial concern, and solely and entirely within the jurisdiction and competence of the Legislature of the Province.

(Signed) JOHN A. MACDONALD.

Copy of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor-General in Council, on the 29th August, 1873.

The Committee of Council have had under consideration the Report, dated 26th August, 1873, of the Honourable the Minister of Justice, upon two Acts passed by the Legislature

of the Province of Ontario at its last session, entitled respectively "An Act to incorporate the Loyal Orange Association of Western Ontario," and "An Act to incorporate the Loyal Orange Association of Eastern Ontario," which were reserved by the Lieutenant-Governor for the assent of your Excellency, in which report the Committee submit their concurrence, and for the reason therein set forth, they recommend that the Lieutenant Governor be informed that your Excellency does not purpose to signify your pleasure with respect to these reserved Acts, or to take any action upon them. The Legislature of Ontario will, at its next session, which will meet before the expiration of the year within which, by the constitution, your Excellency has the power to signify your pleasure, have the power, if it pleases, of considering the measures anew, and re-enacting or rejecting them at its discretion. If these Acts should again be passed, the Lieutenant-Governor should consider himself bound to deal with them at once, and not ask your Excellency to intervene in matters of Provincial concern, and solely and entirely within the jurisdiction and competence of the Legislature of the Province.

Certified.

(Signed) W. A. Himsworth,
C. P. C.

The undersigned has had under consideration the report of the late Minister of Justice, Sir John A. Macdonald, dated 29th August, 1873, on the Bills passed by the Legislative Assembly at its last session for the incorporation of the Loyal Orange Associations of this Province, and the Order in Council adopting the said Report.

It appears that the Minister of Justice by his report, advised that the Bills referred to, should not be allowed by His Excellency the Governor-General, because, in effect, the reservation of the Bills by the Lieutenant-Governor was (as the Minister of Justice argued) unnecessary; no express instructions to reserve having been given, and the bills being such as fell within the jurisdiction of a Provincial Legislature to pass.

The refusal to advise the allowance of the bills, because their reservation was unnecessary, was a course which had no precedent that the undersigned can discover; nor is the reason for the refusal very intelligible. If, from a Dominion point of view, the bills were deemed so free from objection that they need not have been reserved, the strongest possible reason was afforded by that circumstance, for their instant allowance by the Governor-General, under the advice of his Council.

With respect to the general question as to what Bills should be reserved, the Minister of Justice appears to have forgotten that, though the commission of the Lieutenant Governor expressly refers to instructions as accompanying it, yet no instructions of either an affirmative or a negative kind were in fact sent with the commission or afterwards. In the absence of such instructions, the Lieutenant-Governor could only be guided by British Constitutional usage in this matter, as, in all other matters, which came before him in his official capacity, and his duty requires him to ascertain and follow such usage. For this purpose he was bound to refer to the instructions which had been given, from time to time, by the British Government to the Governors and Lieutenant-Governors of British Provinces, and to the practice which those Imperial officers had observed with the approval of the Crown, and the concurrence of the Provinces.

Usage is, according to the British system, as obligatory as express enactment, where there is no express enactment to govern. Everybody knows that most British Constitutional rules have no other foundation than precedents.

In the present matter, it seemed impossible for a Lieutenant-Governor to claim or exercise a higher or less unshackled authority than is possessed by the Governor-General himself acting under instructions; and His Excellency the Governor-General is forbidden to give his assent to any bill containing provisions to which the royal assent had been once refused, or which had been disallowed by Her Majesty.

A similar direction has always been contained in the instructions which have, from time to time, been given by the Crown to Provincial Governors.

Now, the Dominion Government had given no intimation of its policy as to legislation like that in question, but it was matter of history that no similar bills had theretofore become law in any part of the British Dominions, and that it had been the policy of the Imperial Government to discountenance Orange Associations. Further, the bills in question corres-

ponded in substance with a bill passed on the 21st April, 1863, by the Lieutenant-Governor, and the Council and Assembly of Prince Edward Island, entitled "An Act to incorporate the Grand Orange Lodge of Prince Edward Island, and the subordinate Lodges in connection therewith;" and this Act was thus remarked upon by His Grace the Duke of Newcastle, then Her Majesty's Secretary of State for the Colonies, in conveying to the Lieutenant-Governor of Prince Edward Island the decision of the Imperial Government.

"I deeply regret that the Legislature of Prince Edward Island should have given its sanction to a class of institutions, which all experience has shown to be calculated (if not actually intended) to embitter religious and political differences, and which must be detrimental to the best interests of any colony in which they exist."

"Holding these views respecting the measures, I have felt it impossible to advise Her Majesty the Queen to signify Her Royal approbation of it, without which, I am glad to observe, it will not take effect."

"The Act, therefore, will remain inoperative." The undersigned does not concur in the observations of His Grace with reference to the legislation which His Grace condemns, but the undersigned quotes the observations as affording an authoritative illustration of Imperial policy on this question. In advising upon the Ontario Bills it had also to be remembered, that that part of the community which from long political and social as well as religious antagonism, is sensitive (the undersigned and others think unreasonably sensitive) in respect to special legislation in favour of Orange bodies, constitutes a larger proportion of the population of the Dominion than it does of Great Britain, or of the British Empire as a whole.

Again, it was matter of notoriety that a bill had been brought into the Parliament of the Province of Canada in 1858, and been supported in the Legislative Assembly by both the late Minister of Justice and the undersigned, and by many of the political friends with whom they respectively acted, but was rejected by the Assembly without having been permitted to go even to a second reading; and the undersigned does not recollect that from that time until the introduction of the bills now in question, like bills were ever submitted in this country for legislative sanction.

It will be remembered, that the attention of the undersigned was not directed to the question of the Lieutenant-Governor's duty in regard to these bills until after they had been passed by the Legislative Assembly. The question being then raised and discussed, and the undersigned having given to it his best attention, it seemed to him that to concur in advising the Lieutenant-Governor to reserve the bills for the assent of His Excellency the Governor-General, was the fitting course to take in view of the constitutional consideration to which the undersigned has in substance referred, as well as in deference, not only to the opinions of his colleagues, who had voted against the bills when before the Assembly, but in deference also to the advisers of His Excellency the Governor-General, and to the convenience of the parties whom the bills were designed to incorporate. The Dominion Government had the power of disallowing the Acts should the bills receive the Lieutenant-Governor's assent; and the reservation of them would obviously embarrass the Dominion authorities less than subsequent disallowance; while, on the other hand, if the bills were, from the Dominion stand point, unobjectionable, the reservation need delay their operations but a few weeks; the responsible head of the Dominion Government being a prominent member of the order, and not to be supposed adverse to the bills, or solicitous to find reasons to prevent their becoming law.

In arguing that the reservation had been unnecessary, the Minister of Justice suggested that the reservation of bills should be confined to those which the Provincial Legislature had no jurisdiction to pass. But the Lieutenant-Governor received no instructions to reserve even such Bills, and to limit reservation to such bills had never before been the rule in colonial practice. In the absence of either instructions or precedent for such a restriction, it was impossible to advise the Lieutenant-Governor that such a restriction should be his rule of action. Bills which the Legislature had no power to pass, do not become law even if they do receive the assent of the Lieutenant-Governor, but, on the contrary, and notwithstanding such assent, such Acts are absolutely null and void.

The undersigned has always been of opinion that the desire of the numerous and respectable body of Orangemen to become incorporated, ought not to be resisted, and that the objections to their incorporation were not sufficient to maintain such resistance; though, on that point, his colleagues and many of their friends in the Legislative Assembly took a different

Such bills, whenever proposed, have, no doubt, from historical memories and other

causes, excited extremely bitter feelings on the part of a section of the population, but the hostile feelings with which such special legislation is regarded, should not apply to incorporation under general incorporation laws, the policy of which, as a check upon private bill legislation generally, the undersigned has already suggested for the consideration of the Executive Council. All parties recognize the right of all men and all legal bodies to equal advantages under the general laws of the land, whatever these general laws may be; and, on the other hand, good subjects will not desire incorporation in a way offensive to any large class of their fellow subjects, when incorporation is attainable by a method free from that difficulty

Respectfully submitted,

(Signed) O. Mowat.

December 16th, 1873.

RETURN

Of Correspondence and Papers relating to the "Toronto and Nipissing Railway," subsequent to that printed in Sessional Papers of 1871-2.

By command,

C. F. FRASER,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
Toronto, 16th February, 1873.

Schedule of Correspondence and Papers relating to the "Toronto and Nipissing Railway.

1872.
Feb. 26.—Letter from A. A. McLauchlin to President of Council.
Jan. 18.—Resolution passed by Municipal Council of Laxton, Digby and Longford.
Feb. 29.—Letter from A. A. McLauchlin to President of Council.
March 2.—Letter from Provincial Secretary to Secretary of Company.
March 5.—Letter from Acting Assistant-Secretary to Secretary of Company.
March 6.—Letter from Secretary of Company to Provincial Secretary, enclosing Copy of Bond.
March 7.—Letter from Secretary of Company to Provincial Secretary, enclosing Statements by Chief Engineer, Edmund Wragge, Esq., and by Mr. J. Aug. Barretto.
March 15.—Letter from Secretary of Company to Provincial Secretary.
March 15.—Letter from Provincial Secretary to Secretary of Company.
March 20.—Letter from Secretary of Company to Provincial Secretary, enclosing
(Feb. 24, '71) Letter from Joseph Staples, Reeve of Bexley, to Secretary of Company.
April 8.—Letter from Acting Assistant-Secretary to A. McLauchlin, Norland.
1874.
Jan. 17.—Letter from John Leys to Provincial Secretary.
Jan. 19.—Letter from Assistant Secretary to John Leys.
Jan. 20.—Letter from John Leys to Provincial Secretary.
Jan. 21.—Letter from President of Company to Provincial Secretary.

TORONTO AND NIPISSING RAILWAY.

Hon. E. BLAKE,
President of Council.

SIR,—The promoters of the "Toronto and Nipissing Railway," in submitting a by-law to the ratepayers of Laxton, Digby and Longford, stated that, if the by-law carried, the road would be built into that municipality, the by-law in consequence carried. The Council did not confirm the by-law. Two of the Directors of the Railway appeared at a public meeting, called for the purpose, and submitted a proposition to the meeting, in which it was provided that if the meeting granted a bonus of $12,500 to construct the railway to Coboconk, that, in the event of the Government granting a bonus to the "Toronto and Nipissing Railway," that

within six months of the time the grant was made, the road would be extended to, and a station built at Norland.

And as it is more than probable that the Government and Legislature are about to assist with a grant of money in the construction of the said road, I have to ask, as the representative of the Council of Laxton, Digby and Longford, that the Government should insist that the Directors carry out in good faith their own proposal to carry the road to Norland, and that any grant made by the Government shall extend to and take in the Village of Norland, for the following reasons:

The promoters of the railway divided their scheme into two sections, making the Galt River the dividing line, because, as they *stated*, at that point the public domain was reached, and that their basis for the first section would be a municipal one, and that from the intersection of the road with the Government lands, the basis would be a Government bonus either in lands or cash.

The prospectus was issued. Bonuses were granted by the various municipalities, the road placed under construction, and is now nearly completed to Coboconk, and now the Directors ask from the Government a bonus on the mileage from Uxbridge to Coboconk. On behalf of my municipality, I contend that so far as the Government is concerned, this first section should take in and include the Village of Norland, because it is not until the road passes that place that the public domain is reached. That at that place a very important colonization road is reached—namely, the Monck line, by which good communication can be had with the free grant lands in Peterboro' and Muskoka districts, and over which the principal supplies will be sent to the lumber districts of the Gull and Burrett Rivers; and, further, there is no doubt but that even before the Government is asked to pay any money, a very respectable part of the bonus to extend the road from Coboconk to Norland, a distance of only 4½ miles, will be realized from the sale of Elliott's Falls water power, some 1,200 acres of land in Laxton, and some 1,600 acres in Somerville, near Norland, and further by that small extension, the vast water power of that place will be utilized, and a revenue will arise to the Government from dues on hard woods, as well as from pine.

Very truly your obedient servant,

A. A. McLAUCHLIN.

Robinson House, Toronto, February 26th, 1872.

(Copy.)

Moved by John Bailey, seconded by R. Railance:

That whereas certain promises were made to the ratepayers of the Municipality of Laxton, Digby and Longford, by a deputation of the "Toronto and Nipissing Railway Company," in January last, namely: that in case the said Municipality grant the said Railway Company the sum of $12,500 as a bonus to aid the said company, in the event of the Government aiding the said company, the said company would bind themselves to extend the said Toronto and Nipissing Railway, and provide proper station and station accommodation in the Township of Laxton, within six summer months after the said aid was promised from the Government.

And whereas the said Municipality is in receipt of a bond from the said company; be it resolved, that the said bond be not received by this Council on the ground:

First, That only Laxton instead of the Municipality of Laxton, Digby and Longford is mentioned in said bond, and that the above stated promise is omitted from said bond.

Therefore, this Council authorise A. A. McLauchlin, Esq., to call at the Company's office in Toronto, and arrange with the company to have a proper bond sent to the Reeve, in accordance with the promises made by the deputation to the ratepayers of this Municipality.—Carried.

I certify that the foregoing is a true and correct copy of a motion passed by the Municipal Council of Laxton, Digby and Longford in Session, on the fifteenth day of January, 1872.

(Signed) DANIEL STAPLE,
Township Clerk.

Laxton January 18th, 1872.

(Copy.)

ROBINSON HOUSE,
TORONTO, February 29th, 1872.

Hon. E. Blake, Premier.

DEAR SIR,—In respect to the remarks that fell from the Honourable member for North Ontario, on the discussion consequent, on the motion to grant aid to the "Toronto and Nipissing Railway," I beg leave to remark, that when drawing up the very imperfect memorandum addressed to yourself by me, it was not at all intended to be used either by yourself or by him, without some discussion by all three of us, in respect to the subject.

I wish to add that the statements made by the member for North Ontario, so far as they related to public aid, and as to promises, and an understanding with the Municipality of Laxton, Digby and Longford, they were furnished by me, and are substantially correct.

I admit that so long ago as the turning of the first sod at Cannington, the promoters of the road demanded Government aid from the Village of Uxbridge, but long before that time my Municipality had passed its by-law, (being the second to pass a by-law) and further, every by-law had been passed from Toronto to Laxton before that time. I therefore beg leave to remark, that in working up the by-laws, the argument was used that Municipal bonus was to be the basis to Coboconk, and Government bonus in land or cash was to be by the basis from Coboconk to Nipissing. No advocate of the road allowed an opportunity to pass without it being impressed upon the hearer, that the line was to be one from Toronto to Lake Nipissing. The scheme, as placed before the ratepayers, was that we wanted $5,000 per mile, Municipal Bonus; $5,000 per mile Private Stock; $5,000 per mile in Bonds of the Company; making in all $15,000 per mile, the amount the road was to cost the company. The Company have realized nearly the Municipal bonus. They have issued nearly the amount in bonds, but they have come very far short of as yet obtaining the amount of private stocks.

I was principally interested in inducing my Municipality to grant a bonus, which they did of $25,000, but, in persuading them to do so, I promised the ratepayers that the debentures should not be paid over unless we were well assured the road should be extended to Norland. Our Council did not confirm the by-law, because the company was not willing to carry out the agreement I made with the people on behalf of the company, and we were in that position in 1871. In January of that year, Mr. Laidlaw and Mr. Gardner, on behalf of the company came to Laxton, and, at their instance a public meeting was called by the Reeve, and addressed by them; they stated that unless our Municipality gave a bonus the road would never be completed to Coboconk, but if we gave them a bonus they would build the road to Coboconk, and they had the promise of the Government that once there, no doubt but what aid would be given to go on at once to Nipissing; and statements were made and assurances given that immediately on the road being completed to Coboconk, forty miles reaching to Trading Lake, would be placed under contract. A proposition was then submitted and a vote taken thereon. Thus, if the meeting would vote, instructing their Council to confirm the by-law and then pay $12,500 in debentures to the Company, the Company would give their bond, promising, that in the event of the Government granting a bonus to the road, the road would be extended to Laxton with a station at Norland. Within six summer months of the time, the Government declared their willingness to do so. On that proposition the majority of the meeting voted "yea." The Council confirmed the by-law, the debentures were paid over, but the bond sent down did not meet the case, and although the company have been asked for nearly a year up to this day, our Council have not received a proper bond, and I think the Government of which you are the very distinguished head, would only be performing a very just act, as in the case of the Wellington, Grey and Bruce Railway, and the Toronto, Grey and Bruce Railway to ask the directory to come to an understanding with the poor and weak Municipalities of Laxton, Digby and Longford, before the bonus on the last 20 miles reaching to Coboconk was paid over. Documentary evidence can be produced to substantiate the points in this letter. With profound regard,

I am, yours truly,
A. A. MCLAUCHLIN.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 2nd March, 1872.

SIR,—I have the honour to inform you that application has been made by the municipality of the Township of Laxton, to stay the payment authorized to be granted to the "Toronto and Nipissing Railway Company," on the ground that an agreement has been entered into with the municipalities adjacent, for the extension of the line of that road for some miles, and to request you to furnish, at your earliest convenience, an explanation of this matter, for the information of His Excellency the Lieutenant-Governor.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) PETER GOW,
Secretary.

J. Graham, Esq.,
Secretary,
Toronto and Nipissing Railway Company,
Toronto.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 5th March, 1872.

SIR,—I have the honour to inform you that, reserving the question alluded to in my letter, of 2nd instant, with reference to the claims of the municipality of the Township of Laxton, the Government observes, that the papers submitted by the Toronto and Nipissing Railway Company, indicate that that company considers itself entitled to present payment for a section of the line.

I am, therefore, to ask for information as to the points between which the company claims such present payment, and further, for a statement, verified by the engineer and the persons who made the actual measurement of the distance between the points in question, with as full details as possible of such measurements.

I have to add that, in case payment by sections is desired, the expenses of the necessary investigations, by the Government, will be charged to the Company.

I have the honour to be,
Sir,
Your obedient servant,
I. R. ECKART.
Acting Assistant Secretary.

J. Graham, Esq.,
Secretary,
"Toronto and Nipissing Railway Company,"
Toronto.

(Copy.)

TORONTO AND NIPISSING RAILWAY OFFICES.
TORONTO, 6th March, 1872.

SIR,—I have the honour to reply to your letter, dated the 2nd instant, to enclose a copy of bond given by this company to the Municipality of Laxton, and which embodies the agreement, entered into by this Company with that municipality, on which the debentures for $12,500 were delivered.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) JAMES GRAHAM.
Secretary.

To the Honourable Peter Gow,
Provincial Secretary, Toronto.

Know all men by these presents that we *The Toronto and Nipissing Railway Company*, are held and firmly bound unto the *Corporation of the Township of Laxton*, in the present sum of twelve thousand five hundred dollars, to be paid to the said Corporation of the Township of Laxton, their Successors and Assigns, for which payment well and faithfully to be made, we bind ourselves, our successors and assigns, firmly by these presents.

Sealed with our Corporate Seal, and dated this seventeenth day of February, one thousand eight hundred and seventy-one.

Whereas the said Corporation of the Township of Laxton proposed to give toward the construction of said Railway the sum of twenty-five thousand dollars, and a by-law for that amount was voted upon by the people of the said Municipality and carried.

And whereas the Corporation of the said Municipality have refused to ratify the said by-law or read the same a third time;

And whereas it has been agreed that the said Company should accept the sum of twelve thousand five hundred dollars, and agree not to take any proceedings to compel the delivery of the residue of the said Debentures.

Now, therefore, the condition of the above Bond is such that if the said Company upon the delivery of the said Debentures for twelve thousand five hundred dollars, do and shall complete their said Railway to Coboconk, before the first day of November, one thousand eight hundred and seventy-two, and do and shall abstain from taking any proceedings against the said Municipality, for the said residue of the said Debentures or the interest thereon, and in default of having their said Road so finished, do and shall pay the interest on said sum of twelve thousand five hundred dollars, from the said first day of November, until the said road is so finished and at least one train per day running thereon to and from Coboconk, and shall in the event of the said Road being extended further North, provide a Station at Norland and other suitable Station accommodation in the said Township, then the above Bond shall be void, but otherwise shall remain in full force and virtue.

(Signed) JOHN SHEDDEN,
President.

(Signed) JAMES GRAHAM,
L. S. *Secretary & Treasurer.*

(Copy.)

TORONTO AND NIPISSING RAILWAY OFFICES,
TORONTO, 7th March, 1872.

SIR,—In compliance with the request contained in your letter of the 5th instant, I have now the honour to state that this Company considers itself entitled to present payment for that section of the Railway from Uxbridge north to the crossing at the Midland Junction Railway.

Further, I beg to enclose statement verified by the Chief Engineer, Edmund Wragge, Esq., of this Railway, and by Mr. J. Aug. Barretto, one of his assistants, giving the actual measurement between the points northward, from Uxbridge to the Midland Junction Railway, being a distance of Twenty-three-and-a-half miles, (say 23·50).

I have the honour to be, Sir,
Your obedient servant
(Signed) JAMES GRAHAM.
Secretary.

The Honourable Peter Gow,
Provincial Secretary, Ontario.

(Copy.)

TORONTO AND NIPISSING RAILWAY,
Engineer's Office, TORONTO, 7th March, 1872.

SIR,—In compliance with the request of the Provincial Secretary, I enclose you herewith a certificate of Mr. Barretto giving the distance between Uxbridge Station and the Mid-

land Junction Station, between which points the Railway is now open for traffic. The distances between the various stations are as follows:—

Uxbridge to Wick	$7\frac{96}{100}$ miles.
Wick to Sunderland	$3\frac{90}{100}$ "
Sunderland to Cannington	$5\frac{83}{100}$ "
Cannington to Woodville	$4\frac{03}{100}$ "
Woodville to Midland Junction	$1\frac{78}{100}$ "
Or a total of	$23\frac{50}{100}$ "

This is the correct distance of the whole section now open. Mr. Barretto's measurement made, since the track was laid, is 23 miles, 2,620 feet, or within 20 feet of the above; and I have no doubt whatever of its correctness, as it agrees so very nearly with my own calculation.

I am, Sir,
Your's faithfully,
EDMUND WRAGGE,
Chief Engineer.

James Graham, Esq., Secretary.

(Copy.)

TORONTO AND NIPISSING RAILWAY.
Engineer's Office, UXBRIDGE, March 7, 1871.

SIR,—Having measured the distance between Uxbridge and the Midland Junction, where the road is now opened for traffic, I make it twenty-three miles (23) and two thousand six hundred and twenty feet (2620).

I have the honour to be, Sir,
Your obedient servant,
J. AUG. BARRETTO.
Assistant Engineer.

To James Graham, Esq.,
Secretary T. & N. R. C., Toronto.

(Copy.)

TORONTO AND NIPISSING RAILWAY OFFICES,
TORONTO, 15th March, 1872.

SIR,—Referring to your letter of the 6th inst., I have now the honour to request that you may furnish me with a copy of the application made by the municipality of the Township of Laxton, to stay the payment authorized to be granted to the "Toronto and Nipissing Railway Company," on the ground that an agreement had been entered into with the municipalities adjacent, for the extension of the line of that road for some miles.

In an interview which I had with the Hon. Edward Blake, President of the Council, he authorized me to make this application to you for the communication (in copy) made through you to the Council.

I have the honour to be, Sir,
Your obedient servant,
(Signed). JAMES GRAHAM,
Secretary.

To the Hon. Peter Gow,
Provincial Secretary of Ontario.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 15th March, 1872.

SIR.—I have the honour to acknowledge the receipt of your letter of to-day's date, and in accordance with the request therein, transmit herewith a copy of the application of the municipality of the Township of Laxton, to stay the payment authorized to be granted to the "Toronto and Nipissing Railway Company."

I have the honour to be, Sir,
Your obedient servant,
(Signed) PETER GOW,
Secretary.

James Graham, Esq.,
Secretary, Toronto and Nipissing Railway Company,
Toronto.

(Copy.)

TORONTO AND NIPISSING RAILWAY OFFICE,
TORONTO, 20th March, 1872.

SIR,—I have the honour to acknowledge receipt of copies of letters addressed to the Hon. E. Blake, as President of the Council, by Mr. A. A. McLauchlin, and I am instructed to state that no agreement was ever made by this Company as stated by Mr. McLauchlin.

Messrs. Laidlaw and Gardner deny having made any promise, or having given any undertaking that the road would be built to Norland, on the Company getting a bonus from the Government for the first section of the road from Toronto to Coboconk. It was stated by them that on the Government granting a sufficient subsidy or bonus in lands or money, to enable the Company to construct the road northwards from Coboconk, a station would be built in Laxton, and the road constructed there within six summer months after such aid was granted, but any bonus granted towards the construction of the road on the first section to Coboconk had no relation whatever to the construction of the road north of Coboconk. Referring to my former letter enclosing copy of bond given by this Company to the Townships of Laxton, Digby and Longford, I may again repeat that that bond contains the agreement made by the Company with these Townships, and that the bond was delivered to, and accepted by them before they handed over the debentures to us, as will be seen by reference to letter of Mr. Joseph Staples, Reeve of Laxton, dated 24th February, 1871, to myself as Secretary of the Company, copy of which I herewith enclose.

I have the honour to be, Sir,
Your obedient servant,
(Signed) JAMES GRAHAM,
Secretary.

To the Hon. Peter Gow,
Provincial Secretary.

COPY Letter Joseph Staples, Reeve of Bexley, to James Graham, Secretary, Toronto and Nipissing Railway.

BEXLEY, 24th February, 1871.

DEAR SIR,—I am in receipt of your favour of the 17th instant, enclosing Company's bond, which I consider satisfactory. I am now calling the Council to meet on Monday next, the 27th instant. I could not possibly meet Mr. Degrassie yesterday, as I only received your letter to-day.

I am at a loss to know what to do with the blank bonds, as they are dated to become due in 1889, or say eighteen years, and the by-law is dated still further back. I suppose it

is very important that the debentures should be properly filled, and I confess my inability to do so. I have not seen Mr. Degrassi yet, at leastsince his present visit to this township. In case I meet him, he may be able to instruct me.

I would like to know if the company would be satisfied to allow the four first coupons to be cut off, and all other particulars respecting the bonds, where they are to be dated, and also their relation, the date of the by-law. Now that the time has evidently arrived for us to do our part, it is my earnest wish that we do it exactly right.

Yours truly,
(Signed) JOSEPH STAPLES.
Reeve of Bexley.

James Graham, Esq.,
Secretary,
Toronto and Nipissing Railway Company,
Toronto.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 8th April, 1872.

SIR,—Your communications with reference to the alleged understanding between the "Toronto and Nipissing Railway Company" and the Municipalities of Laxton, Digby and Longford have been the subject of consideration by the Government, and they have communicated with the Railway Company upon them. The Railway Company denies the accuracy of your statements, and asserts that the bond which it has given, embodies the true agreement between the parties, and points to the fact that the debentures, to the amount of ($12,500) twelve thousand five hundred dollars, were actually handed over to it, as evidence of the truth of its statements. You are aware that the late period at which the first communication was made to the Government rendered it impossible that any action should be taken in connection with the recent Orders in Council, and the Government does not see its way to undertaking the determination of disputed facts between the municipalities and the Company. Should you be able to come to any arrangement with the company, the Government will be prepared to facilitate that arrangement being carried out with reference to the present aid in any way consistent with the public interest, but you will see that the Government has no means of doing anything more.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Acting-Assistant Secretary.

A. McLauchlin, Esq.,
Norland.

(Copy.)

TORONTO, 17th January, 1874.

MY DEAR SIR,—The Managing Directer of the "Toronto and Nipissing Railway Company" is desirous of having an interview with you for the purpose of presenting the claims of this railway for additional aid from the Government.

Will you be kind enough to name sometime at your convenience to see him and other members of the Board,

And oblige,
Yours very respectfully,
(Signed) JOHN LEYS.

Hon. C. F. Fraser,
Provincial Secretary.

(Copy.)

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 19th January, 1874.

SIR,—I am directed to acknowledge the receipt of your letter of the 17th instant, and to state, in reply, that the Provincial Secretary will be absent from town for some days. Should the Managing Director of the "Toronto and Nipissing Railway," however, desire an interview with any other member of the Government, an intimation to that effect will receive an immediate answer.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) I. R. ECKART,
Assistant Secretary.

John Leys, Esq.,
Barrister, &c., Toronto.

(Copy.)

TORONTO, January 20th, 1874.

SIR,—Referring to your communication of 19th instant, I am instructed to say that the Managing Director of the "Toronto and Nipissing Railway Company" will be obliged by an interview with the Honourable Messrs. Mowat and Crooks, at any time that will suit their convenience.

I am, &c.,
(Signed) JOHN LEYS.

Hon. C. F. Fraser,
Provincial Secretary

(Copy.)

TORONTO, 21st January, 1874.

SIR,—The Board of Directors of the "Toronto and Nipissing Railway Company" desires to place before the Government, the claims for further aid to which it is considered that Company is fairly entitled.

The aid received up to the present time from the Government, has been wholly upon that portion of the railway between Uxbridge and Coboconk, and the total amount has been only $104,860. The total length of the line of this railway is eighty-eight (88) miles, so that taken over its whole length a bonus of less than $1,200 per mile has been all that has hitherto been granted to them.

When the first application was made by this company, it was then estimated that the total cost of the railway would be $1,275,852. The actual cost now that it is finished and thoroughly equipped, is $1,600,000, or an excess of $25,000 over and above the first estimate, which has arisen from the fact, that nearly everything has increased in price to a very great extent, since these calculations were made: the one item of labour alone, which forms upwards of one-half of the entire cost of the railway, having increased 25 per cent., and thereby added some $200,000 to its cost. The result to this company is, that although they possess a railway constructed in the best possible manner, and thoroughly equipped in every particular, they find themselves hampered by a floating debt of over $250,000, which they are unable to remove except by assistance from the Government.

What they now ask the Government to do is as follows:—To grant them aid at the rate of $2,000 per mile from Toronto to Uxbridge, to increase the subsidy from Uxbridge to the Midland Junction from $2,000 to $3,000 per mile, and to grant them $4,000 per mile from Midland Junction to Coboconk, instead of what was previously given, viz.: $2,000 per mile from Midland Junction to the Portage Road, and $3,000 per mile from the Portage Road to Coboconk.

With reference to that portion between Toronto and Uxbridge, I beg to point out that, although no aid was asked previously for this section, the Company feels that it is due to them, for the following reasons:—The line of railway was commenced at a time when all railway matters were in a state of depression in Canada, and it was through the public spirit shown

by the promoters of this and the "Toronto, Grey and Bruce Railway," that a revival of railway enterprise was inaugurated in the country; the fact that they had made arrangements for the construction of this portion of the Railway, before the passing of the Railway Aid Act, sh uld not, they respectfully submit, militate against them, when the whole subject is taken into consideration.

Furthermore, the Government have subsidized a railway running to a point, competing with the "Toronto and Nipissing Railway" at Uxbridge, and this subsidy has placed that Company financially in a better position, and enabled them to apply to the Legislature, for a charter to extend their line to Uxbridge; and also, to cross the "Toronto and Nipissing Railway" at another point further north. I therefore venture to submit that this company should, as regards this section, be placed in no worse position than their neighbours.

I may also mention that charters have been granted for the construction of railways, the one leaving the "Toronto and Nipissing Railway" at Stouffville, and the other at Uxbridge, both of which will be feeders over this portion of the line to the City of Toronto; and it may be urged that this line of Railway may with fairness be considered as forming a link in the line of both the Victoria and Lake Simcoe Junction Railways, and as such, entitled to aid.

With reference to that section of the railway north of Uxbridge, the directors feel that their requests are only reasonable and just. The value of the lands still held by the Crown, lying near the northern portion of the line, before the commencement of this railway, is greatly enhanced, and the wealth of the country has materially increased through this section, and with it the revenues of the Government.

The quantity of cordwood carried by this company since it has been in operation, already exceeds forty-thousand (40,000) cords, which has tended very greatly to reduce its price in Toronto, while at the same time an average price of some $6 per cord or $240,000 in all, has been made out of material which, were it not for the railway, would never have been realized. The new lines spoken of previously, will open up fresh districts for the supply of this part, and this natural wealth will be saved instead of being destroyed, as is now too often obliged to be the case. While so great an advantage has accrued from this source to the country at large, the benefit to this company has been but small, owing to the low and almost unprofitable rate at which, under their charter, they are bound to carry freight of this character.

Extensive iron fields and freestone quarries have been found some few miles north of the present terminus of the railway at Cohoconk, but the Company is powerless to extend their line to them, and so aid in the development of their valuable discovery, while their floating debt remains so large.

The continually increasing traffic upon the Grand Trunk Railway, which is assuming larger proportions every day since the change of guage of that line, will render it necessary for this company at no distant day to provide for an independent entrance to the City of Toronto, and hence they apply for aid from the Government for the whole distance from Toronto.

In conclusion, I may say that this Company is purely a Canadian enterprise, and so far as I am aware, the only one so situated in Canada, the whole of the capital being subscribed and held in Canada, and the share and bond holders naturally feel a just pride in hoping that they may be able to retain this position. Unless, however, they obtain this aid from the Government of their country, they fear they may be driven to obtain the capital elsewhere (if such is possible), for they have been unable so far to raise more money in stock or otherwise to pay off the heavy debt under which they labour, and they look with hope to see the Government recognize their claims, as I have above stated them, knowing them to be only such as are just, fair and reasonable.

I have the honour to be, sir,
Your obedient servant,
(Signed) W. Gooderham, Jr.,
President and M.D., T. & N. R.

To the Honourable,
The Provincial Secretary of Ontario.

Memo., January 22nd., 1874, acknowledged.

MUNICIPAL LOAN FUND.

DISTRIBUTION SCHEME,

COMPOSED OF

SCHEDULES TO THE ACT AND RAILWAY TABLES,
REVISED AND SETTLED,

TOGETHER WITH

CALCULATIONS AND CORRESPONDENCE
RELATING THERETO.

TORONTO:
PRINTED BY HUNTER, ROSE & CO., 86 AND 88 KING STREET WEST.
1874.

MUNICIPAL LOAN FUND.

COPY OF A MINUTE OF COUNCIL approved by His Excellency the Lieutenant-Governor, the twelfth day of February, A D. 1874 :

Upon consideration of the Report of the Honorable the Treasurer, dated the 12th February, 1874, the Committee of Council advise that the annexed schedules be approved of by Your Excellency, and stand as the schedules to the Act intituled "An Act respecting the Municipal Loan Fund Debts," and respecting certain payments to Municipalities (36 Vic. cap. 47) within the intent and meaning of the third section of the said Act, except in so far as the amounts in the said schedules mentioned to be payable to the Corporations of the Counties of Huron and Bruce respectively, are concerned, which are to be taken as provisional, until further enquiry, as mentioned in the remarks contained in the said schedules in relation thereto.

Certified,

J. G. SCOTT,
Clerk Executive Council of Ontario.

Dated 12th February, 1874.

TORONTO, 12th February, 1874.

The undersigned having had under consideration the annexed certificate of the Hon. William Cayley, Auditor, and C. A. Brough, Esq., appointed to examine into the correctness of the schedules to the Act 36 Vic. cap. 47, intituled "*An Act respecting the Municipal Loan Fund Debt*," "*and respecting certain payments to Municipalities*," with the corrected schedules, begs respectfully to recommend that the said schedules so corrected, be approved of by His Excellency in Council, and do stand as the schedules to the said Act, within the intent and meaning of the 3rd section thereof, except in so far as the amounts in the said schedules mentioned to be payable to the Corporations of the Counties of Huron and Bruce respectively, are concerned, which are to be taken as provisional, until further enquiry, as mentioned in the remarks contained in said schedules in relation thereto.

Respectfully submitted,

A. CROOKS,
Treasurer.

TORONTO, 11th February, 1874.

The undersigned beg to report that having been directed to examine the schedules to the Act 36 Vic. c. 47, intituled "*An Act respecting the Municipal Loan Fund Debt, &c.,*" they have found certain errors within the 3rd section of said Act in such schedules, and that they have corrected such errors, and now submit herewith the said schedules as so corrected by them.

WM. CAYLEY,
Auditor.

C. A. BROUGH,

To The Hon. The Treasurer of Ontario.

MUNICIPAL LOAN FUN

Revised Schedules

Showing the position of Accounts or amount of Indebtedness between the Province of Ontario and Municipalities as of 1st January, 1873.

SCHEDULE A.

MUNICIPALITY.	Remarks.
Dundas Town	The debts of these Municipalities were cancelled by the Municipal Loan Fund Act.
Norwich, now North and South Norwich	
Prescott	
Simcoe	
Wyndham	
Woodhouse	
Woodstock	

SCHEDULE B.

Municipalities still indebted to the Municipal Loan Fund after receiving Credit for the several Allowances provided in the Resolutions, and whose debts are not reduced by either the 5 cent rule or the 2 cent rule.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
COUNTIES.			
Northumberland and Durham	223,665 31	223,665 31	
Perth	143,708 05	138,757 64	As the result of an agreement made between the County of Perth and the Town of St. Mary's, on the separation of the Town from the County, St. Mary's is entitled to receive a share of the allowance made to the County of Perth, in respect of the Buffalo and Lake Huron Railway, and the County is only entitled to be credited on its debt, with the balance of such allowance, after deducting the share of St. Mary's. In a return received from the clerk of St. Mary's, it was stated that St. Mary's was entitled to 1-12th of the allowance, and the County to the balance. It was, however, subsequently made to appear that St. Mary's was entitled to (1-17th) one-seventeenth of the allowance only, and the County to (16-17ths) sixteen-seventeenths.
CITIES.			
Ottawa	37,113 88	36,728 47	When the schedules to the Act were prepared, the Government had no exact information as to the sums retained from indebted municipalities out of the Clergy Reserve moneys, and the figures upon which the calculations were based, were (as was stated in the House) an approximation only to the exact figures. Since the schedules to the Act were prepared, a return, showing the exact amounts retained, has been received from the Dominion Government; from this return, it appears that Ottawa is entitled to a larger credit in respect of Clergy Reserve moneys than it received.
TOWNS AND TOWNSHIPS.			
Barrie.....	2,128 68	*2,165 90	Barrie is not entitled to so large a credit in respect of Clergy Reserve money retained as it had been credited with. See remarks on Ottawa.
Cornwall	252 19	1,080 19	Cornwall had received credit for two sums which were supposed to have been retained from it out of Clergy Reserve moneys. By the corrected returns, it appears that the sums had been subsequently paid. See remarks on Ottawa.
Guelph	52,221 62	49,669 31	Guelph is entitled to interest on four-sevenths of its Railway allowance for a longer period than that for which it had been allowed in preparing the schedules to the Act, viz., from December, 1853, instead of from September, 1855. Guelph is also entitled to a larger allowance in respect of Clergy Reserve moneys retained. See remarks on Ottawa.
St. Catharines	165,182 48	160,571 52	There was an error in the calculation as to the portion of the allowance of $2 per head to be applied on the local debt of St. Catharines. St. Catharines is also entitled to a larger share of Clergy Reserve moneys retained. See remarks on Ottawa.

SCHEDULE B.—*Continued.*

(2).—Municipalities indebted to the Municipal Loan Fund, whose debts are reduced by the 5 cent rule.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
	$ cts.	$ cts.	
TOWNS AND TOWNSHIPS.			
Brantford Town	194,018 89	194,018 89	
Chatham	103,478 29	103,478 29	
Elizabethtown Township	98,847 23	98,847 23	This debt has been settled by the arrangement with the Canada Central Railway.
Goderich	93,854 55	58,932 22	This debt has been reduced by the application of the principle established in the case of the Township of Hope.
Port Hope	150,482 40	92,518 73	This debt has been reduced by the application of the principle established in the case of the Township of Hope.
Hope Township	36,546 95	34,949 03	An error was made in the calculation.
Peterborough	72,430 46	72,430 46	
Stratford	77,797 79	53,408 26	This debt has been reduced by the application of the principle established in the case of the Township of Hope.
COUNTIES.			
Lanark and Renfrew	322,069 93	322,069 93	This debt has been settled by the arrangement with the Canada Central Railway.

SCHEDULE B.—*Continued.*

3)—Municipalities indebted to the Municipal Loan Fund, whose debts are reduced by the 5 cent rule, and further reduced by the 2 cent rule.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
	$ cts.	$ cts.	
Brockville	135,375 00	135,375 00	This debt has been settled by the arrangement with the Canada Central Railway.
Cobourg	69,580 00	69,580 00	
London	486,058 64	486,058 64	
Niagara	14,205 04	14,205 04	
Ops with Lindsay	47,914 80	37,915 00	Error of the press.
Chippawa	3,338 62		Owing to erroneous information as to the amount of aid given by the Town of Niagara towards the construction of the Erie and Niagara Railway, the proportion of the allowance in respect of that Railway with which Chippawa was credited was much smaller than it should have been. The revised calculations show that Chippawa should be credited with $1,670, instead of being charged with $3,338 62.

SCHEDULE C.

(1)—Municipalities which have sums to receive, besides their debts to the Municipal Loan Fund, being satisfied.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
	$ cts.	$ cts.	
COUNTIES.			
Bruce	116,379 40	115,315 89	The amount in the Revised Schedule is only provisional, till certain questions between Huron and Bruce are determined, which may involve a special enquiry. The aggregate amount to be paid to the two Counties is settled, but the proportion to be received by each is not yet determined. The difference arises from Bruce having been erroneously credited, in the Schedule to the Act, with $1,063.51, in respect to Clergy Reserve moneys retained. Since last Session the claim of McGillivray and Biddulph, as to the Railway allowance against Huron and Bruce, was referred to a Commission, and an application is pending to review their report, in order to offer further material evidence.
Elgin (exclusive of St Thomas)	73,332 33	72,818 78	In Schedule to the Act, Elgin was credited with a portion of the Railway allowance belonging to St. Thomas.
Essex	46,057 06	46,057 06	
Grey	117,376 10	117,376 10	
Huron (exclusive of allowances to Town of Goderich and Townships of Stanley and Howick)	249,112 73	249,112 73	See note to Bruce.
Hastings (exclusive of population allowance allotted to Belleville)	12,505 07	12,505 07	
Lincoln (exclusive of population allowance allotted to the Towns of St. Catharines and Niagara)	35,031 46	21,660 51	In the Schedule to the Act the allowances to the Townships of Caistor and Gainsborough are included, these Townships are treated separately in the Revised Schedule, as by 26 Vic., cap. xiii., they are exempt from contributions to the debt of the County of Lincoln.
Lambton	59,425 82	73,231 82	Lambton is organized differently for electoral and municipal purposes; by the census for 1871 the organization for electoral purposes was followed, and in preparing the Schedule to the Act the difference was overlooked.
Oxford	70,985 87	71,053 53	This difference arises from variations in the census returns.
TOWNS AND TOWNSHIPS.			
Belleville, County Hastings	7,946 39	8,436 86	In the Schedule to the Act, Belleville was not credited with anything in respect of Clergy Reserve moneys retained, as appears by the returns received from the Dominion Government. Belleville is entitled to $490.56. See remarks on Ottawa, Schedule B.
Bertie " Welland	24,996 70	21,100 60	In the Schedule to the Act the allowances for Fort Erie were included.
Brantford Township, County Brant	65,398 14	64,538 64	In the Schedule to the Act the Township of Brantford was improperly credited with $859.50 in respect of Clergy Reserve moneys retained. See remarks on Ottawa, Schedule B.
Canborough, County Haldimand	6,148 13	6,148 13	
Moulton and Sherbrooke	20,591 04	11,585 95	In the Schedule to the Act the allowances for Dunnville were included.
Middleton, County Norfolk	4,917 74	4,917 74	
Paris " Brant	33,747 78	34,709 55	In the Schedule to the Act, by an error of the press, $33,747.78 was printed instead of $34,747.78. In the Schedule to the Act also, Paris was credited with $38.33 too much, in respect of Clergy Reserve moneys retained. See remarks on Ottawa, Schedule B.
Stanley " Huron	15,082 89	14,572 49	In the Schedule to the Act Stanley was improperly credited with $510 in respect of Clergy Reserve moneys retained. See remarks on Ottawa, Schedule B.
Wainfleet " Welland	21,658 25	21,658 25	

SCHEDULE C.—*Continued.*

(2.)—Sums going to Municipalities which were not indebted to Municipal Loan Fund.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
Brant (exclusive of the Towns of Brantford and Paris, the and Township of Brant)	29,290 00	29,290 00	
Carleton	43,478 00	62,774 00	The County of Carleton is organized for electoral purposes in a different manner from that in which it is organized for municipal purposes. By the Census of 1871, the organization for electoral purposes was followed, and in preparing the schedules to the Act, this difference was over-looked.
Frontenac	32,620 00	54,626 00	County of Frontenac organized differently for electoral and municipal purposes. See remark on Carleton.
Haldimand (exclusive of Canborough, Moulton and Sherbrooke, and Village of Dunnville)	43,086 00	40,182 00	In the Schedules to the Act, the population allowance of Dunnville was included ; this is now calculated separately.
Halton	45,212 00	45,212 00	
Kent (exclusive of Chatham)	69,522 00	69,522 00	
Leeds and Grenville (exclusive of the Towns of Brockville and Prescott, Townships of Elizabethtown and Oxford, and Village of Kemptville)	81,550 00	79,806 00	In the Schedule to the Act, the population allowance of Kemptville was included ; this is now calculated separately.
Lennox and Addington	75,416 00	53,410 00	The United Counties of Lennox and Addington are organized differently for electoral and municipal purposes. See remarks on Carleton.
Middlesex	156,078 57	157,078 57	Error of the press.
Norfolk (exclusive of the Town of Simcoe, and Townships of Middleton, Windham and Woodhouse)	33,958 00	33,958 00	
Ontario (exclusive of Thorah, Uxbridge and Scott)	72,776 00	62,426 00	In the Schedule to the Act, the population allowance of the Township of Brock was included ; this is now calculated separately.
Peel (exclusive of Albion and Caledon, and Village of Bolton)	32,738 00	32,738 00	The Village of Bolton was not separated from the Township of Albion until after the Census of 1871.
Peterborough (exclusive of Town of Peterborough)	49,434 00	49,434 00	
Prescott and Russell	71,982 00	52,686 00	Prescott and Russell are organized differently for electoral and municipal purposes. See remarks on Carleton.
Prince Edward	40,672 00	40,672 00	
Simcoe	113,738 00	113,738 00	
Stormont, Dundas and Glengarry (exclusive of Cornwall)	112,510 00	112,510 00	
Victoria (exclusive of Ops and Lindsay)	45,602 00	38,460 00	In the Schedule to the Act, the population allowance of the Townships of Eldon, Bexley, Somerville and Laxton, are included, and allowances to Townships of Macauley, Stephenson, Draper, Ryde and Oakley are excluded. See note to Muskoka.
Waterloo (exclusive of Berlin and Preston)	72,200 00	64,546 00	In the Schedule to the Act population allowance of Galt is improperly included.
Welland (exclusive of Bertie, Chippawa, and Wainfleet)	38,464 00	36,794 00	In the Schedule to the Act, the population allowance of Fort Erie was included. This is now calculated separately.
Wellington (exclusive of Guelph Township, Guelph Town, Elora, Fergus, Maryborough, Minto, Nichol, Peel, and Orangeville)	62,148 00	46,770 00	In the Schedule to the Act, the population allowances of Amaranth, Arthur and Mount Forest were included ; these are now calculated separately.
Wentworth (exclusive of Dundas)	55,496 00	55,496 00	
York (exclusive of Scarborough and Markham)	94,230 00	94,230 00	

SCHEDULE C.—*Continued.*

(2.)—Sums going to Municipalities which were not indebted to Municipal Loan Fund.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
DISTRICTS.			
Algoma	10,014 00	10,014 00	
Manitoulin	4,022 00	4,022 00	
Muskoka	10,800 00	6,012 00	Since the census of 1871, the Townships of Macaulay and Stephenson, and also the United Townships of Draper, Ryde, and Oakley have been separated from Muskoka and added to County of Victoria.
Nipissing	3,582 00	3,582 00	
Parry Sound	3,038 00	3,038 00	
CITIES.			
Hamilton	83,895 80	43,083 97	The amount of the City of Hamilton, "Sterling interest account," has been deducted.
Kingston	24,814 00	24,814 00	
Toronto	167,764 00	165,984 08	Reduced by corrected adjustment of Railway allowances. See notes to Albion and Bexley (*inf.*)
TOWNS AND TOWNSHIPS (Not included in the foregoing.)			
Albion	14,575 00	13,785 43	The Village of Bolton was included in the Schedule to the Act. Changes have also been made as to the allowance in respect of the Toronto, Grey and Bruce Railway. Certain municipalities entitled to share in the allowance made in respect of that railway were omitted when the Schedules to the Act were prepared (viz., Amaranth, Arthur, and Mount Forest), and the length of the line in respect of which aid is to be granted has been increased from 48 miles to 72 miles.
Amaranth		8,386 00	See note to Albion.
Arthur		14,002 00	See note to Albion.
Berlin	21,125 52	21,125 52	
Bexley		2,608 03	This place is entitled to an allowance in respect of the Toronto and Nipissing Railway, and was improperly omitted in the Schedule to the Act.
Bolton		1,928 57	Included in Schedule to Act in Township of Albion. Separation has taken place since census of 1871.
Brock		15,783 37	See note to Bexley.
Caistor		4,332 00	This place was included in the County of Lincoln in the Schedule to the Act as, however, it is exempt from contribution to the County debt by 26th Victoria, chapter xiii., it has been treated separately.
Caledon	15,038 00	16,320 00	See note to Albion.
Elora	4,565 00	5,177 83	There has been a change in the distribution made in respect of the Wellington, Grey and Bruce Railway.
Eldon		10,885 36	See note to Bexley.
Fergus	4,901 00	5,513 83	See note to Elora.
Gainsborough		6,032 00	See note to Caistor.
Galt	13,654 00	13,654 00	

SCHEDULE C.—*Continued.*

(2)—Sums going to Municipalities which were not indebted to the Municipal Loan Fund.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
	$ cts.	$ cts.	
Guelph Township	14,397 72	15,144 50	Guelph Township was entitled to interest on its Railway allowance for a longer period than that for which interest had been allowed, viz., from December, 1853, instead of from September, 1855 only.
Howick	28,542 73	29,769 38	See note to Elora.
Kemptville		4,762 75	This was included in the Township of Oxford.
Laxton, Digby and Longford		3,058 35	See note to Bexley.
Markham	21,344 00	19,564 03	See note to Bexley.
Maryborough	15,112 00	17,563 26	See note to Elora.
Minto	19,914 00	23,903 79	See note to Elora.
Mono	13,428 00	14,710 00	See note to Albion.
Mount Forest		5,740 00	See note to Albion.
Nichol	7,043 00	7,655 83	See note to Elora.
Orangeville	4,739 00	5,166 00	See note to Albion.
Oxford Township	24,334 94	21,061 10	This included the Railway allowance of Kemptville, which place is now treated separately.
Peel	17,764 00	20,215 26	See note to Elora.
Preston	19,790 33	21,251 58	Preston was entitled to interest on its Railway allowance for a longer period than that for which interest had been allowed, viz., from December, 1853, instead of from September, 1855 only.
St. Thomas	14,396 50	14,918 09	St. Thomas' share of the Railway allowance to the County of Elgin is included here.
Scarborough	10,910 00	10,316 69	See note to Bexley.
Somerville		3,778 03	See note to Bexley.
Scott	7,230 00	6,636 69	See note to Bexley.
Thorah	25,930 00	25,930 00	
Uxbridge	17,924 00	14,957 37	See note to Bexley,
Wallace	3,922 00	5,454 55	See note to Elora.

10

Unindebted Towns and Villages separated from Indebted Municipalities.

MUNICIPALITY.	Schedule to Act.	Revised Schedule.	REMARKS.
	$ cts.	$ cts.	
Dunnville		9,005 09	Included in Schedule to Act in Moulton and Sherbrooke.
Fort Erie		3,811 06	Included in Schedule to Act in Township of Bertie.
St. Marys	16,831 41	18,121 00	The Schedule to the Act was calculated on the supposition that the Town of St. Marys was entitled to (1-12th) one-twelfth of the Railway allowance made to the County of Perth, whereas the correct share was (1-17th) one-seventeenth. See note to Perth, Schedule B. The population allowance of St. Marys was also credited to the County of Perth.

MUNICIPAL LOAN FUND.

TABLE No. 3 A.

TABLE shewing how the Municipalities indebted under the Municipal Loan Fund would stand which invested money in the Buffalo and Lake Huron Railway, allowing them $2,000 per mile as from date of debt, compounded at 5 per cent.

MUNICIPALITIES.	Loan.	Proportion to be allowed.		Total Principal and Interest.	REMARKS.
		Principal.	Interest.		
	$ cts.	$ cts.	$ cts.	$ cts.	
Bertie Township	40,000 00	15,537 00	25,107 23	40,644 23	Loan made 16th April, 1853, 19 years 260 days.
Brantford "	50,000 00	19,421 00	31,383 64	50,804 64	Loan made 16th April, 1853, 19 years 260 days.
Brantford Town	500,000 00	54,377 00	85,305 67	139,682 67	Loan of $100,000 made 16th April, 1853, 19 years 260 days—and loan of $400,000 made 18th August, 1854, 18 years 136 days. This town received back on the securities held, $360,000, which are deducted from the loan in adjusting the Railway allowance.
Bruce County *	R 53,571 00	20,809 00	33,295 40	54,104 40	Loan made 1st June, 1853, 19 years 214 days.
†	L 1,429 00				
	55,000 00				
Canborough Township	8,000 00	3,109 00	5,024 02	8,133 02	Loan made 16th April, 1853, 19 years 260 days.
Huron County	R 246,429 00	95,716 00	153,150 35	248,866 35	Loan made 1st June, 1853, 19 years 214 days.
	L 6,571 00				
	253,000 00				
Moulton and Sherbrooke, United Townships	20,000 00	7,769 00	12,554 41	20,323 41	Loan made 16th April, 1853, 19 years 260 days.
Paris Town	40,000 00	15,537 00	24,859 95	40,396 95	Loan made 1st June, 1853, 19 years 214 days.
Perth County	R 200,000 00	77,682 00	124,295 03	201,977 03	Loan made 1st June, 1853, 19 years 214 days.
	L 88,000 00				
	288,000 00				
Stratford Town	100,000 00	4,274 00	6,199 39	10,473 39	Loan made 18th August, 1854, 18 years 135 days. This Town received back on the securities held, $89,000, which are deducted from its Loan in adjusting the allowance.
Wainfleet Township	20,000 00	7,769 00	125,54 41	20,323 41	Loan made 16th April, 1853, 19 years 260 days.
Totals	1,374,000 00	322,000 00	513,729 50	835,729 50	The amount in respect of which the Railway allowance has been divided is only $829,000, being the total of the sums borrowed and expended on Railway.

* When R appears before amount of Loan it signifies that such amount was applied in aid of the Railway.
† When L appears before amount of Loan it signifies that such amount was applied for local purposes.

MUNICIPAL LOAN FUND.

TABLE No. 3 B.

Allowances made in respect of several Railways.

RAILWAY AND MUNICIPALITY.	Loan.	Proportion of Railway Allowance.		Total principal and Interest.	REMARKS.
		Principal.	Interest.		
	$ cts.	$ cts.	$ cts.	$ cts.	
Bytown and Prescott Railway, 54 miles at $2,000 per mile, $108,000—					
Ottawa City.....$60,000 stock	200,000 00	67,826 00	105,262 57	173,088 57	Loan made 17th October, 1853, 19 years 75 days.
Oxford Township ..... 24,000 "	.....	6,261 00	9,716 75	15,977 75	Loan made 17th October, 1853, 19 years 75 days. The Village of Kemptville is entitled to receive 17-90th of this amount, viz., $3,018.65.
Prescott Town..... ..... 30,000 "	100,000 00	33,913 00	52,631 28	86,544 28	Loan made 17th October, 1853, 19 years 75 days.
$114,000	300,000 00	108,000 00	167,610 60	275,610 60	
Brockville and Ottawa Railway, 86½ miles at $2,000 per mile, $173,000–					
Brockville Town.....	400,000 00	51,108 00	76,490 03	127,598 03	Loan made 1st April, 1854, 18 years 276 days.
Elizabethtown Township.....	154,000 00	19,676 00	29,447 78	49,123 78	do do do do
Lanark and Renfrew Counties	800,000 00	102,216 00	152,980 06	255,196 06	do do do do
	1,354,000 00	173,000 00	258,917 87	431,917 87	
Cobourg and Peterborough Railway, 32 miles at $2,000 per mile, $64,000—					
Cobourg Town.....	500,000 00	64,000 00	96,376 39	160,376 39	Loan of $120,000 made 30th June, 1853, 19 years 184 days. Loan of $180,000 made 31st December, 1853, 19 years. Loan of $100,000 made 30th June, 1854, 18 years 184 days. Loan of $100,000 made 3rd February, 1855, 17 years 332 days.
Erie and Niagara Railway, 30½ miles at $2,000 per mile, $61,000—					
Niagara Town.....	280,000 00	45,750 00	74,225 52	119,975 52	Loan made 1st April, 1853, 19 years 275 days.
Chippawa	26,000 00	15,250 00	24,741 84	39,991 84	Loan made 19th April, 1853, 19 years 257 days.
	306,000 00	61,000 00	98,967 36	159,967 36	$80,000 only of the amount borrowed were given in aid of the Railway, viz., $60,000 by Niagara, and $20,000 by Chippawa.

MUNICIPAL LOAN FUND.

TABLE No. 3 B—*Continued.*

Allowances made in respect of several Railways—*Continued.*

RAILWAY AND MUNICIPALITY.	Loan.	Proportion of Railway Allowance.		Total principal and Interest.	REMARKS.
		Principal.	Interest.		
Peterborough and Port Hope Railway, 79 miles at $2,000 per mile, $158,000	$ cts.	$ cts.	$ cts.	$ cts.	
Hope Township	60,000 00	8,618 00	14,058 51	22,676 51	Loan made 21st March, 1853, 19 years 10 months.
Ops	80,000 00	11,491 00	17,602 85	29,093 85	Loan made 14th December, 1853, 19 years 17 days.
Peterborough	100,000 00	14,364 00	15,619 31	29,983 31	Loan made 28th November, 1857, 15 years 33 days.
Port Hope	860,000 00	123,527 00	177,985 51	301,512 51	Loans made, $200,000, 1st March, 1853, 19 years 10 months. $120,000, 31st March, 1854, 18 years and 9 months. $200,000 on 18th August, 1854, 18 years 134 days, and $340,000 on 19th September, 1855, 17 years 103 days.
	1,100,000 00	158,000 00	225,266 18	383,266 18	
London and Port Stanley Railway, 24½ miles at $2,000 per mile, $49,000—					
London City $220,000	375,400 00	26,038 00	38,025 13	64,063 13	Loan made 20th July, 1854, 18 years 165 days.
Middlesex County 80,000		9,469 00	14,071 57	23,540 57	Loan made 3rd May, 1854, 18 years 243 days.
St. Thomas Town 34,000		4,024 00	5,980 01	10,004 01	Loan made 3rd May, 1854, 18 years 243 days.
Elgin County 80,000	80,000 00	9,469 00	14,071 57	23,540 57	Loan made 3rd May, 1854, 18 years 243 days.
$414,000	455,400 00	49,000 00	72,148 28	121,148 28	

MUNICIPAL LOAN FUND.

Table No. 3 C.

Allowance made in respect of several Railways.

Railway and Municipality.	Loan.	Proportion of Railway Allowance.		Total principal and Interest.	Remarks.
		Principal.	Interest.		
	$ cts.	$ cts.	$ cts.	$ cts.	
Welland Railway, 31 miles at $3,000 per mile, 93,000—					
St. Catharines	190,000 00	16,034 48	25,051 16	41,085 64	Loan made of $50,000 on 17th September, 1853, 19 years 105 days.
		32,068 97	47,023 13	79,092 10	Loan made of $100,000 on 1st July, 1854, 18 years 183 days.
		12,827 58	17,230 66	30,058 24	Loan made of $40,000 on 21st July, 1855, 17 years 163 days.
		32,068 97	50,102 35	82,171 32	Loan made of $100,000 on 17th September, 1853, 19 years 105 days. St. Catharines raised this last sum, $100,000, on its own credit, and $190,000 through the Municipal Loan Fund.
		93,000 00	139,407 30	232,407 30	
Galt and Guelph Railway, 15½ miles at $2,000 per mile, $31,000—					
Guelph Town	$70,000	7,294 00	11,203 56	18,497 56	Loan made of $40,000 on 5th December, 1853, 19 years 26 days.
	80,000 00	5,471 00	7,331 34	12,802 34	Loan made of $30,000 on 1st August, 1855, 17 years 153 days.
Preston "	40,000	7,294 00	11,141 58	18,435 58	Loan made of $40,000 on 29th December, 1853, 19 years 2 days.
Guelph Township	20,000	3,647 00	5,587 80	9,234 80	Loan made of $20,000 on 16th December, 1853, 19 years 15 days.
Hamilton City	40,000	7,294 00	11,175 60	18,469 60	Loan made of $40,000 on 16th December, 1853, 19 years 15 days.
		31,000 00	46,439 88	77,439 88	
Berlin and Preston Railway—					
Hamilton City					
Bonds owned by the Province of Ontario, part of issue of $200,000 invested in this Railway		80,000 00	76,395 20	156,395 20	Interest for 11 years and 6 months from 30th June, 1861, to 1st January, 1873. This sum will be liquidated by the Government cancelling the $80,000 bonds and past due interest coupons, $76,395.10.
Berlin stock taken and paid for in this Railway $20,000		8,000 00	7,639 52	15,639 52	Interest for 11 years and 6 months, from 30th June, 1861, to 1st January, 1873.
Allowance made thereon at same rate as to Hamilton					

MUNICIPAL LOAN FUND.

Table No. 3 D.

Allowance made in respect of several Railways.

Railway and Municipality.	Loan.	Proportion of Railway Allowance.		Total.	Remarks.
		Principal.	Interest.		
	$ cts.	$ cts.	$ cts.	$ cts.	
Toronto, Grey and Bruce Railway, 72 miles at $1,000 per mile, $72,000—					
Toronto City	$250,000	37,500 00			
Albion Township	40,000	6,000 00			
Caledon	45,000	6,750 00			
Mono	45,000	6,750 00			
Amaranth	30,000	4,500 00			
Orangeville Village	15,000	2,250 00			The Township of Luther also voted a bonus of $20,000 to aid this Railway, but it was forfeited by the Railway Company and never paid.
Arthur Township	35,000	5,250 00			
Mount Forest Village	20,000	3,000 00			
	$480,000	72,000 00			
Toronto and Nipissing Railway, 42 miles at $1,000 per mile, $42,000—					
Toronto City	$150,000	16,300 08			
Scarborough	10,000	1,086 69			
Markham	30,000	3,260 03			
Uxbridge	50,000	5,433 37			
Scott	10,000	1,086 69			
Brock	50,000	5,433 37			
Eldon	44,000	4,781 36			
Bexley	15,000	1,630 03			
Somerville	15,000	1,630 03			
Laxton, Digby & Longford	12,500	1,358 35			
	$386,500	42,000 00			

TABLE No. 3 D.—*Continued.*

RAILWAY AND MUNICIPALITY.	Loan.	Proportion of Railway Allowance.		Total.	REMARKS.
		Principal.	Interest.		
	$ cts.	$ cts.	$ cts.	$ cts.	
Wellington, Grey and Bruce Railway, 48 miles at $1,000 per mile, $48,000—					
Elora Town.....$10,000		2,181 82			
Fergus 10,000		2,181 82			
Nichol 10,000		2,181 82			
Peel 40,000		8,727 26			
Maryborough 40,000		8,727 26			
Wallace 25,000		5,454 54			
Minto 65,000		14,181 84			
Howick 20,000		4,363 64			
$220,000		48,000 00			
Galt and Doon Railway—					
Galt Town		6,000 00			Allowances in respect of £25,000 contributed for reconstruction of the line, and allowed in original tables.
Midland Railway, from Lindsay to Beaverton, 22 miles, at $1,000 per mile—					
Bonus of Thorah Township.....		22,000 00			See Sessional Papers, 35 Vic., 1871-2, No. 23.

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TO

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APPENDIX.

CORRESPONDENCE MUNICIPAL LOAN FUND.

AUDITOR'S OFFICE, TORONTO, 8th July, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the District of Algoma, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $10,014 00, being an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement as to the amount going to the District under the said Act, it should be brought under our notice within fourteen days from this date.

The sum of $10,014 00 is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of said Act.

We remain, your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH.
Acting Secretary.

P. Carney, Esq.,
Treasurer, District of Algoma.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Albion (exclusive of the Village of Bolton), on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $13,785 43.

Of this sum $5,571 43 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $8,214, is an allowance at the rate of two dollars per head of the population according to the census of 1871, exclusive of the population of Bolton at that date (750).

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed). WILLIAM CAYLEY,
Auditor.

George Evans, Esq.,
Treasurer, Township of Albion,
Bolton.

C. A. BROUGH,
Acting Secretary.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Amaranth, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $8,386 00.

Of this sum $4,500 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $3,886 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed). WILLIAM CAYLEY,
Auditor.

R. Wansbrugh, Esq.,
Clerk, Township of Amaranth,
Laurel.

C. A. BROUGH,
Acting Secretary.

TORONTO, June 27th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Arthur on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $14,002 00.

Of this sum, $5,250 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $8,752 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

WILLIAM CAYLEY,
Auditor.

W. Cushing, Esq.,
Clerk, Township of Arthur,
Kenilworth.

C. A. BROUGH,
Acting Secretary.

AUDITOR'S OFFICE, TORONTO, June 20, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Municipalities in the County of Brant, other than the Towns of Brantford and Paris and the Township of Brantford, on the first of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $29,290, being two dollars per head of the population, according to the census of 1871.

This sum of $29,290 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Brant, other than the Towns of Brantford and Paris, and the Township of Brantford, according to their respective populations, as directed by the seventh paragraph of the Municipal Loan Fund Resolution ; and is to be paid over for such purposes pointed out in the twelfth section of the said Act, as may be provided for by by-laws of the local Municipalities passed after the first day of February next, in accordance with the thirteenth section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Towns of Brantford and Paris, and the Township of Brantford, are excluded from participating in the above allowance, as they are separately dealt with by the Government.

(Signed) WILLIAM CAYLEY,
Auditor.

To C. R. Biggar, Esq.,
Treasurer, County of Brant.

(Signed) C. A. BROUGH,
Acting Secretary.

County of Bruce, Kincardine, May 15th, 1873.

Dear Sir,—I take the liberty to ask you to explain to me as plainly as possible, the manner of the distribution of the Municipal Loan Fund as regards Bruce County; our County Council meets soon, and I am requested to be able to explain to the Council in reference to it.

On page 7 of the schedule there appears to be coming to the County of Bruce the sum of..... $81,675 40

And on page 9, under another heading..... 13,809 92

On the same page there appears coming to the Townships of Kinloss, Huron, Kincardine and Kincardine Village, $30,128 64, besides $486 69 to Kincardine village; and $10,116 40 to Culross; is the $81,675 40 and the $13,809 92 to be paid per capita to the whole county, and do the above townships and the Village of Kincardine get the sums set opposite to them, paid, per capita, to them exclusively, besides their participating in the amount set apart for the whole county?

There are various opinions about the manner of the distribution, and I hope you will be pleased to give me such information on the subject as you think necessary. Waiting your reply,

I am, your most obedient servant,
(Signed) R. Baird,
Warden.

To the Honourable O. Mowat,
Attorney-General.

Auditor's Office, Toronto, June 4th, 1873.

Sir,—In reply to your letter of the 15th ultimo, we, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the County of Bruce, under the amended Municipal Loan Fund Resolution of the 26th of March last, and that the same amounts to $139,691 61, which sum is to be divided among the local municipalities in the county in accordance with the seventh resolution.

The following is a statement of our calculations: aid was granted to the Buffalo and Lake Huron Railway by various Municipalities along the line to the extent of $1,278,000; towards this sum the County of Bruce has contributed to the extent of $53,571; of the allowance of $322,000 made under the fourth resolution to those Municipalities granting aid to the said railway, the County of Bruce is therefore entitled as its proportion to $20,809.

By the same resolution this sum is to be considered as having been payable by the Province to the County on the 1st June, 1853, the date at which the debt of the United Counties of Huron and Bruce to the Municipal Loan Fund was contracted, and compound interest at the rate of five per cent. has been allowed on the said sum of $20,809 00 from the last mentioned date to the 1st of January, 1873; this interest amounts to $33,295 40, making the total sum to be credited by the Province to the County in respect of the Buffalo and Lake Huron Railway, $54,104 40.

Of the sum of $447,000 voted by way of bonus in aid of the Wellington, Grey and Bruce Railway prior to the passing of the Railway Aid Act of 1871, the County of Bruce contributed $227,000 00; it is therefore entitled to the sum of $24,375 72, as its proportion of the allowance of $48,000 made under the fifth resolution in respect of the Wellington, Grey and Bruce Railway.

The population of the County of Bruce according to the census of 1871, was 48,515; the allowance per head under the seventh resolution will therefore be $97,030 00.

The County of Bruce is not entitled to any allowance in respect of Clergy Reserves retained, under the sixth resolution.

According to the foregoing statement, therefore, the total amount with which the County of Bruce is to be credited by the Province is $175,510 12. From this amount

however, is to be deducted $35,818 51, the balance of the County debt to the Municipal Loan Fund, on the 1st of January, 1873, leaving the sum to be paid over by the Province to the County, $139,691 61.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

We remain, your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting Secretary.

To Robert Baird, Esq.,
Warden, County of Bruce.

COUNTY OF BRUCE, KINCARDINE, June 24th, 1873.

DEAR SIR,—Your favour of the 4th instant came duly to hand here, although I expected it at Walkerton, as our County Council was then in session. I have no serious objection to make to your mode of distribution of the Municipal Loan Fund, except that we are of opinion that the County of Bruce should receive the full sum of $175,510 12, and that the $35,318 50, claimed to be due by the County to the Municipal Loan Fund on account of the Buffalo and Lake Huron Railway, should have been fully remitted, as we paid over $92,000 00 on account of said indebtedness, when in fact—as we represented last winter in our memorial—the said railway was but a very indirect benefit to the County of Bruce; and the loan was forced upon us against our will, in fact before we even became a separate municipality, and when the whole county was represented by only one Reeve. I trust the Government will yet consider this point, and remit the balance claimed from us.

The Townships of Culross, Kinloss, Huron, Kincardine and Kincardine Village, also claim that they should be considered favourably, on account of special bonuses granted by them to railways; but this lies with the Government.

I have no suggestion to make on this point.

I have the honour to be, Sir,
Your obedient servant,
ROBERT BAIRD,
Warden, Bruce.

To the Honourable Attorney-General,
Toronto.

AUDITOR'S OFFICE, TORONTO, 2nd July, 1873.

SIR,—We, the undersigned, have been instructed to inform you that a claim has been made by the Townships of McGillivray and Biddulph, to receive a portion of the railway allowance allotted to the Counties of Huron and Bruce, under the Municipal Loan Fund scheme.

We enclose you a copy of a statement showing the grounds upon which the County of Huron opposes the claim of the Townships. The Townships deny the facts mentioned in the statement.

If you wish to resist the claim of the Townships, the onus will, therefore, lie upon you and upon the County of Huron to give evidence of the facts contained in the statement; and it would be well also to bring forward all such other circumstances as you may consider sufficient to deprive the Townships of their right to share in your railway allotment.

We remain, your obedient servants,
WILLIAM CAYLEY,
Auditor.
C. A. BROUGH,
Acting Secretary.

To Robert Baird, Esq.,
Warden, County of Bruce.

COUNTY OF BRUCE, KINCARDINE, 21st Aug., 1873.

DEAR SIR,—I was in Toronto a few days ago, when Mr. Wells, M.P.P., and myself agreed to see you in reference to the distribution of the Municipal Loan Fund as regards the County of Bruce, but you were out of the city at that time.

Now, sir, I do not wish to trouble you too much about this vexed question, but I have always contended Bruce was not compensated from the fund sufficiently for the amount paid by Bruce to the Buffalo and Lake Huron Railway. You are no doubt aware that the loan was forced upon us when united to Huron. The 4th resolution clearly makes our case good, as it states that Municipalities shall be credited out of said fund in proportion to the sum they have contributed. Now, during the time Bruce was united to Huron, Bruce paid back on account of the Buffalo and Lake Huron Railway Loan, about $193,000 00; and at the separation in 1866 from Huron, Bruce had to carry away a balance still against her of $55,000 00; and she had to her credit to the sinking fund, say, $20,000 00. During the last four years the County of Bruce has contributed in aid of the Wellington, Grey and Bruce Railway Company, to the extent of $337,000, in County and sectional County bonuses, and to the Toronto, Grey and Bruce, $43,000 00, by Culross.

I feel it a delicate matter to trespass too much on your valuable time as, during the last session of Parliament, I presented you with memorials in behalf of the County, and did what we could to make our case as plain as possible; our worthy representatives, Messrs. Wells and Sinclair, also represented our case, and the very exceptional position of Bruce, to you: and still, our municipal representatives and the people think our peculiar position has been overlooked by your Government. And I am solicited by some to ask you to appoint a commission to hear our grievances. But, sir, I think when you have time now, and look over the correspondence and our memorials which set forth the facts and the position of the County, you will plainly see that Bruce is fully entitled to receive an additional allowance of about $50,000 00, on account of contributions to railways and the *per capita* allowance.

I enclose you a copy of memorial presented to your Parliament last session.

Trusting and feeling satisfied you will favourably consider this application, and waiting your reply,

I have the honour to be, Sir,
Your obedient servant,
ROBERT BAIRD
Warden, Bruce

To the Hon. Oliver Mowat,
Attorney-General.

COUNTY OF BRUCE, KINCARDINE, 8th September, 1873.

DEAR SIR,—About two weeks ago I wrote to the Honourable Attorney-General in reference to the Municipal Loan Fund and the County of Bruce, enquiring whether under the Municipal Loan Fund Resolutions (particularly resolution four), if something more could not be done for Bruce than is allotted her. I have received no reply. Will you be kind enough to advise me if any reply will be made, as it is of importance in the interests of the County, that we should know the views of the Honourable Attorney-General in the matter.

Waiting your reply,
I am, Sir, your obedient servant,
(Signed) R. BAIRD,
Warden,

C. A. Brough, Esq.,
Auditor's Office, Toronto.

COUNTY OF BRUCE, PAISLEY, 24th September, 1873.

DEAR SIR,—I desire to draw your attention to an error in the distribution of the railway allowance apportioned to the Counties of Huron and Bruce whereby the sum of 16,500 00 to which the County of Bruce is equitably entitled, is improperly allotted to the County of Huron.

The united Counties of Huron and Bruce aided the Buffalo, Brantford and Goderich Railway to the extent of $300,000 00. Of that amount the contribution of the County of Huron was in round numbers, $230,000 00, and of the County of Bruce, $70,000 00.

The total amount of the railway allowance apportioned to the Counties of Huron and Bruce, on account of their said joint contribution, is $302,970. This amount divided between the two Counties in proportion to their several contributions of $230,000 00, and $70,000 00 would give the County of Huron, $232,300 00, and the County of Bruce, $70,600 00; which would be $16,500 00 less to the County of Huron, and $16,500 00 more to the County of Bruce than the present allotment of $248,866 00 to Huron, and $54,104 00 to Bruce.

The injustice of the present distribution is felt keenly in Bruce, for the railway aided was built through the County of Huron and for the benefit of the County of Huron, and the people of Bruce always considered it a great hardship to be compelled to pay for it. And now having been compelled under our municipal institutions to pay a large amount in aid of it, we think it would be a monstrous injustice to hand over to the County of Huron a portion of the railway allowance accruing from the forced contribution from the County of Bruce.

I should think the Government would find no difficulty in correcting the error in question, provided my statement of the amounts contributed severally by the Counties of Huron and Bruce is found correct. And its correctness will not, I think, be controverted by the municipal authorities of the County of Huron. The Treasurer's books will show that, during their connection, the united counties paid, on account of the indebtedness to the Municipal Loan Fund, the sum of $311,480 00, of which the County of Bruce contributed $92,638 00.

The sinking fund accumulated during the connection; amounted to $139,787 00 Bruce's share of which being in proportion to its contribution to the aggregate amount as above, I place at $41,344 00, and the share of Huron at $98,443 00. These two sums form the several portions of the contributions of Huron and Bruce to the railway, which were provided for during their municipal connection.

The balance to be provided for, viz: $308,000 minus the aforementioned sinking fund, $139,787 00, being $168,213 00 was allotted at the separation as follows: To Huron in round numbers, $138,000, and to Bruce, $30,000 00.

In short the contribution of Huron in aid of the Buffalo, Brantford and Huron Railway is composed and constituted of—

First, Portion provided for during connection.	$ 98,000 00
Second, Portion to be provided for after separation.....	138,000 00
Total.....	$236,000 00

And the contribution of Bruce:

First, Portion provided for during connection.....	$41,000 00
Second, Portion to be provided for after separation.....	30,000 00
Total.....	$71,000 00

Leaving out of account the sum of $8,000 00 borrowed for local purposes, it will be seen, that, of the $300,000 00 given by the united counties in aid of the Buffalo, Brantford and Goderich Railway, the County of Huron contributed $230,000 00, and the County of Bruce, $70,000 00.

Upon these amounts the distribution of the railway allowance ought to have been made, and not upon the sums of $253,000 00 and $55,000 00, which were but terms of the formula which indicated the additional amounts which the two counties agreed severally to provide for, after separation, viz: Huron, $253,000, minus $114,325 00, equals $138,675 00, and Bruce $55,000, minus $24,961, equals $30,039 00.

Trusting that the Government will see it their duty to correct the error which I have

brought under your notice, and hoping that the representatives of Huron, municipal and otherwise, possess enough of the spirit of honesty and fair play to be willing to consent to what is right,

I remain, yours respectfully,
(Signed) DONALD SINCLAIR.

P. S. I am aware that the representatives of Huron may be unfair enough to claim that section five of the Resolutions settle the question that I have raised, but I maintain that the said section cannot have a meaning and force which it was never intended either by the Government or the House that it should have.

(Signed) D. S.

To the Hon. Oliver Mowat,
Attorney-General, Toronto.

KINCARDINE, COUNTY OF BRUCE.
4th November. 1873.

DEAR SIR.—Nearly two months ago I had the pleasure of writing to you in behalf of the County of Bruce, praying that our claim to a further consideration in the Municipal Loan Fund matter might be more fully considered by you.

As stated in my letter then, we claim that a larger sum should be refunded to us on account of the large amount paid by Bruce on account of the repayment of the Buffalo and Lake Huron Railway loan. I feel confident that when you examine the amount repaid by Bruce, compared with Huron, you will at one see we are entitled to a further participation of about $20,000.00 over what has already been allotted to us.

Trusting this will meet with your approbation, and that I shall be favoured with a reply,

I have the honour to remain,
Yours, &c.,
(Signed) ROBERT BAIRD.
Warden,
County Bruce.

To the Honourable O. Mowat,
Attorney-General.

AUDITOR'S OFFICE,
TORONTO, June 5th, 1873.

SIR—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid, by the Town of Barrie, to the Province, under the amended Municipal Loan Fund Resolutions of 26th March last, and that the same amounts to $2,165 90

The following is the statement of our calculation:—

Barrie is not entitled to any railway allowance under either the 4th or under the 5th Resolutions.

Under the 6th Resolution, Barrie is entitled to an allowance (as corrected) of $3,034 78, in respect of Clergy Reserves.

By the census of 1871, the population of Barrie was three thousand three hundred and ninety-eight (3,398): the allowance of $2 per head, under the 7th Resolution, will, therefore, amount to $6,796 00

The total amount, therefore, with which the Town of Barrie is to be credited by the Province is $9,830 78.

The arrears of the debt of Barrie to the Municipal Loan Fund, on 1st January, 1873, were $11,996.68; this amount, less $9,830 78, the sum to the credit of the town, leaves the debt of the Town of Barrie to the Province, on the 1st January, 1871, $2,165 90.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make them within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by the Lieutenant-Governor in Council.

We remain,

Your obedient servants,

(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

To A. B. McPhee, Esq.
Treasurer,
Town of Barrie.

County Clerk's Office,
Belleville, June 24th, 1873.

Sir—I have the honour to inform you that when the Town of Belleville was separated from the County of Hastings, for municipal purposes, the terms of separation were as follows:—

I. It being ascertained that the debts of the county were incurred for works chiefly done outside of the Corporation of Belleville, they were wholly assumed by the county.

II. The county paid the town its proportion of the value of the Court-House, Goal and Registry Office, and assumed the sole right and title to the same.

III. The town was to pay the county, annually, $400 00 for the use of the Court-House, Goal, and Registry Office, which has been done.

IV. The town was also to pay the county $800 00, per annum, as its proportion of the expenses of the administration of justice.

V. A special bargain was made between the county and the town, that if the county would purchase all the toll roads in the county, and make all the roads free of toll, the town should pay, for twenty years, a certain proportion of the debt incurred for such purpose.

The county subsequently did so, and the town has been paying to the county, on this account, the yearly sum of $2,456.80, ever since the separation which did take place in 1860.

I am, Sir.

Your obedient servant,

(Signed) Thos. Mills.
County Clerk.
County Hastings.

To the Honourable W. Cayley,
Provincial Auditor,
Toronto.

Auditor's Office.
Toronto, 27th June, 1873.

Sir—We, undersigned, are instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Town of Belleville, on the 1st of February next, according to the provisions of the Loan Fund Act, and that the same amounts to $8,102 49

The following is a statement of the mode by which that sum was arrived at:—

The amount of Clergy Reserve Money which appears to have been retained by the Government was, for 1st Janurary, 1873.....	$190 56	
Interest thereon from 1st January, 1873, to 1st February, 1874.....	26 57	
		$517 13
$2 per head of population, according to census of 1871, payable at 1st February, 1874.....		$14,610 00
		$15,127 13

Deduct balance due Municipal Loan Fund 1st January, 1873	$6,663 70	
Interest thereon from 1st January, 1873, to 1st February, 1874	$ 360 94	
		$7,024 64
		$8,102 49

This sum of $8,102.49 is to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act as may be provided for by by-law passed after the 1st of February, 1874, in accordance with 13th section of said Act.

Should there appear to be any errors in the above statement it should be brought to our attention within fifteen days of this date.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY.
Auditor.
(Signed) C. A. BROUGH.

To R. P. Davey, Esq.,
Treasurer,
Belleville.

(Duplicate.)

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Town of Berlin, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $21,125 52.

Of this sum, $15,639 52 are for an allowance in respect of the Berlin and Preston Railway.

The remainder of the sum to be paid to the municipality, amounting to $5,486 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
W. CAYLEY,
Auditor.
C. A. BROUGH,
Assistant-Secretary.

Clerk, Town of Berlin.

AUDITOR'S OFFICE,
TORONTO, 20th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Bertie (exclusive of Fort Erie) on 1st February, 1874, under the Municipal Loan Fund Act, and that the same amounts to $21,925 96.

The following is a statement of our calculation: the debt of Bertie and Fort Erie to the Municipal Loan Fund amounted on 1st of January last to $25,881 53; interest on that sum from 1st January, 1873, to 1st February, 1874, amounts to $1,401 90 making the total indebtedness of Bertie and Fort Erie on 1st February, 1874, amount to $27,283 43.

Bertie and Fort Erie are entitled as of 1st January, 1873, to an allowance of $40,644 23, in respect of the Buffalo and Lake Huron Railway; interest on that sum, from 1st January, 1873, to 1st February, 1874, amounts to $2 201 56; making the total railway allowance going to both Bertie and Fort Erie on 1st February next $42,845 79.

Upon deducting the debt from this amount, there remains a balance of $15,926 35, payable on 1st February, 1874, of which balance Bertie is entitled to receive $13,626 15.

Bertie is entitled to an allowance (as of 1st January last) of $2024.01, in respect of Clergy Reserve moneys retained; interest thereon to 1st February, 1874, amounts to $109 80, making in all $2,133 81.

Bertie is also entitled to an allowance (as of 1st January, 1874,) of $5,866 00 being at the rate of $2 per head of the population according to the census of 1871.

The sum of $21,925 96, going to the township, is to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act as may be provided for by by-laws passed after 1st February next, in accordance with the 13th section of the said Act.

Should there appear to be any error in the above statement, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servant,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough.

To Joseph Johnstone, Esquire,
Treasurer, Township of Bertie.

(Duplicate.)

Toronto, June 21st, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Bexley, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $2,608 03.

Of this sum, $1,630 03 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $978 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
W. Cayley,
Auditor.
C. A. Brough,
Assistant Secretary.

Michael Heaphy, Esq.,
Clerk, Township of Bexley, Carden.

Bolton, March 10th, 1873.

Sir,—I desire to draw your attention to the following matter in connection with the resolutions before the House, as to the distribution of the surplus moneys of Ontario. In the schedules, as published, the sum of $14,232 is set down for Albion Township, in the County of Cardwell.

The Village of Bolton was incorporated in June of last year, and became a separate municipality from Albion, of which it was previously a part, in January last. Therefore it will be entitled, I presume, to a proper share of the sums allotted to Albion, both as to railway debt and population; but whether, as the matter now stands, it would not be held that the Village of Bolton being a separate corporation from Albion, was included in the rest of the County of Peel, and is not entitled to share with Albion in the grant to that township. This, of course, would be wrong, the population of Bolton being counted in that of Albion, and the village being still liable for its proper proportion of the railway debt.

The population of Bolton at the time of the last census, I presume, was between 700 and 750, as in June last it was 810, and the proportionate rate of assessment in 1872 is $\frac{1}{18\ 92}$ of the whole township.

I fear, that if no provision is made for the circumstances, that we in Bolton would have difficulty in getting an equitable settlement, and therefore have taken the liberty to draw your attention to it.

I am, dear sir,
Your obedient servant,
(Signed) L. R. Bolton,
Reeve of the Village of Bolton.

The Hon. Oliver Mowat,
Attorney-General, Ontario.

Toronto, June 21st, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Bolton, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $1,928 57.

Of this sum, $428 57 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $1,500 00, is an allowance at the rate of two dollars per head of the population at the time of the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting Secretary.

L. R. Bolton, Esq.,
Reeve, Village of Bolton.

(Duplicate.)

Toronto, June 20, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Brantford, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $67,290 55.

Of this sum, $53,556 55 are for an allowance in respect of the Buffalo and Lake Huron Railway (interest being allowed to 1st February, 1874).

The remainder of the sum to be paid to the Municipality, amounting to $13,734, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) W. Cayley,
Auditor.
C. A. Brough,
Acting Secretary.

R. Biggar, Esq.,
Treasurer, Township of Brantford.

AUDITOR'S OFFICE.
TORONTO, 5th June, 1873.

SIR—We, the undersigned, have been instructed, by the Government, to inform you that we have calculated the sum to be paid by the Town of Brantford to the Province, under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find the debt of the Town of Brantford, by the operation of the five cent rule, under the 3rd Resolution, to be reduced to $194,018 87.

The indebtedness of the Town of Brantford to the Municipal Loan Fund, without the intervention of the five cent rule referred to above, and after receiving the benefit of its Clergy Reserve, Railway and Population allowances, would have stood at $717,811 97.

The town is, consequently, benefited by the application of the five cent rule to the extent of $523,793 10.

If you have any suggestions or objections to make, with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

With reference to the debentures to be given, under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by his Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WM CAYLEY,
Auditor,
(Signed) C. A. BROUGH,
Acting Secretary.

To James Walker, Esq.,
Treasurer,
Brantford.

TORONTO, June 21st, 1873.

SIR—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Brock, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $15,783 37. Of this sum $5,433 37 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the municipality amounting to $10,350 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY.
Auditor.
(Signed) C. A. BROUGH.
Acting-Secretary.

T. H. Walshe, Esq.,
Clerk, Tp. of Brock,
Cannington.

TORONTO, 14th June, 1873.

SIR—We, the undersigned, have been instructed by the Government to inform you that we have calculated the amount to be paid by the Town of Brockville, as of 1st January last, under the amended Municipal Loan Fund Resolutions of 26th March last, and find that the sum amounts to $135,375 00. The debt of the town, after receiving credit for the Railway,

Clergy Reserve and Population allowances, would have stood at $719,736 63, but the application of the two cent rule, under the ninth paragraph of the said Resolutions, further reduces the debt by the sum of $584,361 63, leaving the amount to be paid, as of 1st January last, $135,375 00

We call your attention to the liability of the town to pay interest upon its debt from 1st January last, as provided by the sixth section of the Municipal Loan Fund Act.

If you have any suggestions or objections to make with reference to the calculations of the amount to be paid by the Town of Brockville, on the basis of the Resolutions, you are to make the same within fourteen days from this date.

With reference to the debentures to be given under the sixth section of the Municipal Loan Fund Act, we are instructed to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

The foregoing communication is made independently of the consideration of the proposal of the Canada Central Railway Company, and we are instructed to say that the determination of the Government, as to that proposal, will be communicated to you probably in the course of a few days.

We remain,
Your obedient servants.
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

G. S. McLean, Esq., Treasurer,
Town of Brockville.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Municipalities in the County of Carleton, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $43,478 00, being two dollars per head of the population, according to the census of 1871.

This sum of $43,478 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Carleton, according to their respective populations, as directed by the seventh paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the twelfth section of the said Act, as may be provided for by by-laws of the local municipalities passed after the first day of February next, in accordance with the thirteenth section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

(Signed) WILLIAM CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

To the Treasurer, County of Carleton.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Caledon, on 1st of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $16,320 00.

Of this sum, $6,750 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $9,570 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

D. Kirkwood, Esq., Treasurer,
Township Caledon, Rockside.

AUDITORS' OFFICE,
TORONTO, June 20th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Canborough, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $6,350 18.

The following is a statement of the mode in which that sum was arrived at:—

Railway allowance granted to the Municipality in respect of its aids to the Buffalo and Lake Huron Railway, as of 1st Jany., 1873	$8133 02	
Interest thereon from 1st January, 1873, to 1st February, 1874	440 54	
		$8573 56
Allowance of $2 per head of population, census 1871, payable 1st February, 1874		2418 00
		10991 56
Less balance of debt to Municipal Loan Fund, 1st January, 1873...	4402 89	
Interest thereon from 1st January, 1873, to 1st February, 1874.....	238 49	
		4641 38
		$6350 18

Should there appear to be any error in the above calculation, it should be brought to our attention within fifteen days of this date.

We remain,
Your obedient servants,

(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH.

To John Tolmsbee,
Treasurer, Township of Canborough.

AUDITOR'S OFFICE,
TORONTO, 5th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Town of Chatham to the Province, under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find the debt of the Town of Chatham, by the operation of the 5 cent rule under the 3rd Resolution, to be reduced to $103,478 29.

The indebtedness of the Town of Chatham to the Municipal Loan Fund, without the intervention of the 5 cent rule referred to above, and after receiving the benefit of it, Clergy Reserve and Population allowances would have stood at $145,018 22

The town is consequently benefited by the application of the 5 cent rule to the extent of $41 539 93.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make them within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
C. A. BROUGH,
Acting-Secretary.

To Malcolm Weir, Esq.,
Treasurer, Chatham.

CHATHAM, 18th September, 1673.

DEAR SIR,—I wish to submit a few statements to you in reference to the Municipal Loan Fund debt of the Town of Chatham; you will remember that in the year 1856 we paid to the Chatham and Camden Plank Road..... $12,000 00
And to the St. Clair and Rondeau Gravel Road..... 32,000 00

Making altogether..... $44,000 00
The simple interest on the amount for the last 18 years at 6 per cent. 47,520 00

Now, as you are well acquainted with the Honourable Mr. Mowat, I wish you would urge upon him the necessity of deducting at least the $44,000 00 invested in these roads from the $69,522 00, to be paid to the County of Kent by the Government; and credit the same to the town, thereby reducing its Municipal Loan Fund debt, as the money paid for the roads by the town was all taken from the Municipal Loan Fund.

The Government have got the money in their own hands, and it will be the easiest, surest, and best way of getting our debt reduced, while, at the same time, it will be doing no injustice to the County, as it has received $91,520 in principal and interest as shewn above in the roads, and they are more of a county than town work, and the town paid about $20,000 interest on this amount to the Receiver General, &c., which is quite enough for all the indirect benefit it has received, while the County has not paid one dollar for principal or interest, that I am aware of, for the whole 18 years past; the trifling tolls received are all expended on the roads, and scarcely sufficient to keep them in repair; equal, perhaps, to the statute labour saved. The whole amount received by the town from the roads up to this time was only $5,087 65.

You may show this letter to the Honourable Mr. Mowat if you think best.

Hoping to receive a satisfactory reply soon,

I am, dear Sir,
Yours truly,
(Signed) M. WEIR.

Hon. Archibald McKellar,
Toronto.

AUDITOR'S OFFICE,
TORONTO, November 27th, 1873.

DEAR SIR—In reply to your letter of 18th September last addressed to the Honourable the Commissioner of Public Works, urging that certain sums invested by the Town of Chatham in the Chatham and Camden Plank Road, and in the St. Clair and Rondeau Gravel Road should be deducted by the Government from the sums payable to the County of Kent under the Municipal Loan Fund Act of last session, and that the amount so deducted should be credited to the Town of Chatham on account of its debt to the Municipal Loan Fund. I am instructed to say that the Government has no legal power to interfere between the Town and County of Kent in the manner you mention, and that such an arrangement could only be accomplished by mutual agreement between the County and Town.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.
Acting Secretary.

To Malcolm Weir, Esq.,
Treasurer, Chatham.

AUDITOR'S OFFICE,
TORONTO, July 8th, 1873.

SIR,—We the undersigned, have been instructed by the Government, to inform you, that we have calculated the sum to be paid by the Province to the Village of Chippawa on 1st February, 1874, in accordance with the Municipal Loan Fund Act; and that the same amounts to $1,660 57.

This sum is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-law after 1st February next, under the 13th section of the said Act.

The following is a statement of our calculations:—

Railway allowance (Erie and Niagara) as of 1st January, 1873		$39,911 84
Interest thereon from 1st January, 1873, to 1st February, 1874		2,166 22
Clergy reserve allowance corrected) as of 1st January, 1873		1,733 16
Interest thereon, from 1st January, 1873, to 1st February, 1874 ...		93 87
Allowance as of 1st February, 1874, at $2 per head, according to census of 1871		1,844 00
		$45,829 09
Less debt to M. L. F., 1st January, 1873	$41,899 00	
Interest to 1st February, 1874	2,269 52	
		44,168 52
Amount due to Chippawa		$ 1,660 57

Should there appear to you any error in the foregoing statement, you are to bring the same to our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
C. A. BROUGH,
Acting Secretary.

Charles Keller, Jun., Esq.,
Clerk, Village of Chippawa.

TORONTO, June 10th, 1873.

SIR,—We the undersigned, are instructed by the Government to inform you that we have calculated the sum to be paid by the Town of Cobourg, as of 1st January, 1873, under the amended Municipal Loan Fund Resolutions of 26th March last, and find that the same amount to $69,580 00. The debt of the Town after having received credit for Railway, Clergy Reserve and Population allowances, would have stood at $1,013,611 36, but the application of the 2 cent rule, under the 9th paragraph of the said Resolution further reduces the debt by the sum of $941,031 36, leaving the amount to be paid as of the 1st January last, $69,580 00. We also call your attention to the liability of the Town to pay interest on its debt (as reduced) from 1st January last, in the manner provided by the 6th section of the Municipal Loan Fund Act.

If you have any suggestions or objections to make with reference to the calculations, on the basis of the Resolution, as to the amount to be paid by the Town of Cobourg, you are to make the same within fourteen days from this date.

We are also instructed to state that a form for the Debentures to be given under the 6th section of the Municipal Loan Fund Act, will be prescribed by His Excellency the Lieutenant-Governor in Council.

With reference to your communication of 20th ultimo, to the Honourable the Provincial Secretary, stating that the Town of Coburg is unable to pay the sum found to be due by it under the Resolutions, the Attorney-General, to whom your letter was referred, desires me

to call your attention to the fact that the debt of Cobourg, under the 2 cent rule, has been calculated on the basis of ¼ cent in the dollar on the assessment of 1872, an infinitely smaller rate than in the case of many other places; and that Cobourg seems more able to pay the amount of its indebtedness, than other Municipalities to pay the sums for which they are liable under the Resolution. Thus Chatham with a population of 5,873 has to pay $103,478 29; and Goderich, with a population of 3,954, besides having paid interest every year, is obliged to pay $58,932 22, and means to pay it.

We remain,
Your obedient servants,
(Signed) W. Cayley.
Auditor.
C. A. Brough,
Acting Secretary.

David Brodie, Esq.,
Treasurer Town of Cobourg.

Auditor's Office,
Toronto, June 5th, 1873.

Sir,—We, the undersigned, have been instructed by the Government, to inform you that we have calculated the sum to be paid by the Town of Cornwall to the Province, under the amended Municipal Loan Fund Resolutions of the 26th of March last, and that the same amounts to $1,082 19.

The following is a statement of our calculations:—

Cornwall is not entitled to any railway allowance under either the 4th Resolution or the 5th Resolution. Nor is it entitled to any allowance under the 6th Resolution in respect of Clergy Reserve money retained.

The population according to the census of 1871, was 2,033; the allowance of $2 per head under the 7th Resolution will, therefore, amount to $4,066, which sum is credited to the Town by the Province. The arrears of the debt of the Town to the Municipal Loan Fund on 1st of January, 1873, were $5,148 00, this sum less $4,066 00, the sum to the credit of the Town, leaves the sum to be paid by the Town of Cornwall to the Province, on the 1st January last, $1,082 19.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
Wm. Cayley,
Auditor.
C. A. Brough.

To James Kilgour, Esq.,
Treasurer, Town of Cornwall.

Auditor's Office,
Toronto, July 5th, 1873.

Dear Sir,—Referring to our conversation of yesterday, as to the debt of the Town of Cornwall, to the Municipal Loan Fund, I beg to say, that according to the first schedule as prepared, the debt was $252 19, but that according to the schedules as corrected it amounts to $1,082 19. The increase in amount is owing to the fact that in the first schedules, Cornwall was incorrectly credited with $830 00, on account of Clergy Reserve moneys retained.

The table relative to Clergy Reserve moneys, from which the first schedules were prepared, was imperfect. This was stated in the House by the Honourable the Attorney-General, and the reason given was, that the books relating to these moneys were in the hands of the Dominion Government. Since the close of the Session, a correct return of Clergy Reserve moneys

retained has been received from Ottawa, and from these returns it appears that Cornwall had been incorrectly credited with the $830 00, and that all Clergy Reserve moneys that should have been paid, have been paid.

I remain,
Yours very truly,
C. A. Brough.

To James Bethune, Esq., M. P. P.,
&c., &c., &c., Toronto.

Cornwall, Ontario,
10th July, 1873.

Dear Sir,—Will you kindly send me a statement of the year in which the mistake of the $800 occurred in the Municipal Loan Fund account of this Town.

The Mayor tells me that the payments were all punctually made.

Yours truly,
(Signed) James Bethune.

To C. A. Brough, Esq.,
Auditor's Office.

Auditor's Office,
Toronto, July 16, 1873.

Dear Sir,—In reply to your letter of the 10th instant, enquiring as to the year in which Clergy Reserve moneys were supposed to have been retained from the Town of Cornwall, I beg to enclose you a statement furnished by Mr. Cayley.

I remain,
Yours very truly,
C. A. Brough.

To James Bethune, Esq., M.P.P.,
Cornwall.

Auditor's Office,
Toronto, 15th July, 1873.

Dear Sir,—To explain fully how the errors with respect to the Clergy Reserve moneys paid, and supposed to have been withheld, requires a little history.

When the Audit Clerk was called upon to make out a statement of what municipalities had been excluded from their share of the Clergy Reserves, and the amounts, the only source of information within his reach was the Public Accounts of Canada, which led him into error (as you will say, naturally enough), if you will turn to the Public Accounts of 1860, page 46, part 2, and Public Accounts, page 47, stating that in those two years Cornwall had been excluded. He consequently assumed that the town had received nothing, and estimated the amount at $830 00. When, however, the complete returns had been received from Ottawa, we were enabled to trace that the amount said to have been withheld in 1860, was not withheld; (see Public Accounts, 1860, page 38, part 2), and the amount said to have been withheld in Public Accounts, 1861, page 47, part 2, quoted above, was subsequently paid by Order in Council. (See Public Accounts of 1862, page 48, part 2, $511 20).

Yours truly,
(Signed) William Cayley.

To C. A. Brough, Esq.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Dunnville, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $9,335 56.

Of this sum, $6,431 56 are for an allowance in respect of the Buffalo and Lake Huron Railway.

The remainder of the sum to be paid to the municipality, amounting to $2,904 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) W. Cayley,
Auditor.

(Signed) C. A. Brough,
Acting Secretary.

Hugh Asher, Esq.,
Treasurer, Village of Dunnville.

Clerk's Office,
Dunnville, 10th July, 1873.

Sir,—I am instructed by the council of this village to acknowledge the receipt of your communication of 30th June, giving the amount to which this municipality is entitled. under the settlement of the Municipal Loan Fund Debt.

You state that the sum is $9,335 56, being composed of $6,431 56 as our allowance in respect of the Buffalo and Lake Huron Railway, and $2,904 00 as our per capitum allowance.

Are we to understand that in addition to this amount, $9,335 56, our indebtedness to the Municipal Loan Fund is cancelled ?

An answer will greatly oblige.

Your obedient servant,
(Signed) Charles E. S. Black,
Clerk.

The Hon. W. Cayley,
Auditor.

Auditor's Office,
Toronto, July 22nd, 1873.

Sir,—In reply to your letter of the 10th instant, relating to the sum to be paid to the Village of Dunnville, under the Municipal Loan Fund Act, I beg to say that the sum of $9,335 56, mentioned in our letter of 30th ultimo, will be paid by the Province to the village, in addition to its debt to the Municipal Loan Fund being cancelled.

I remain,
Your obedient servant,
(Signed) C. A. Brough,
Acting Secretary.

Charles E. J. Black, Esq.,
Clerk, Village of Dunnville.

To his Excellency the Honourable William Pearce Howland, C. B., *Lieutenant-Governor of the Province of Ontario.*

The Petition of the Mayor and Town Council of the Town of Durham,

Humbly Sheweth:—

That the Town of Durham was incorporated by an Act of the Legislature of Ontario, passed on the second day of March, in the year of our Lord 1872.

That by a census taken of the said Town in 1871, prior to the Act of Incorporation, the population was found to be fourteen hundred.

That prior to such Act, the said Town formed parts of the Townships of Bentinck and Glenelg, in the County of Grey.

That by the said Act of Incorporation, it appears that the population of the said Town of Durham, at the time of said incorporation, was fourteen hundred, or thereabout.

That the part of said Town taken from the Township of Bentinck, contained at that time about seven hundred and fifty inhabitants.

That the part taken from the Township of Glenelg, contained six hundred and fifty that is to say, 750 from Bentinck, and 650 from Glenelg; in all, 1400.

That the population of said Town is not now less than at the incorporation.

That by the Act of the said Legislature respecting the Municipal Loan Fund debt, and respecting certain payments to Municipalities, the County of Grey is to receive $117,376 10 as on the first day of February, 1874, which is to be distributed by your Excellency in Council among the local municipalities therein, respectively, according to the census of 1871, or in case the population of the municipality does not appear by said census, then according to the population as may be ascertained in any way satisfactory to your Excellency.

That your Petitioners therefore pray that in the distribution of the said sum of $117,376 10, the Town of Durham receive a proportion of the same according to its population, as ascertained in the manner aforesaid.

(Signed) ALEXANDER COCHRANE,
Mayor, Durham.

Council Chamber,
5th November, 1873.

AUDITOR'S OFFICE,
TORONTO, 9th December, 1872.

SIR,—I am directed to acknowledge the receipt of the Petition of the Mayor and Town Council of the Town of Durham, setting forth the incorporation of the town in 1871, and praying that the town may receive its proportion of the amount appropriated to the County of Grey, under the Municipal Loan Fund Act.

As the Townships of Bentinck and Glenelg are concerned in the question of the allotment to be made to the Town of Durham, based on its population, these two townships should be made assenting parties through their respective clerks, to the statement showing the numbers of inhabitants separated from each.

I remain,
Your obedient servant,
(Signed) WM. CAYLEY,
Auditor.

Alexander Cochrane, Esq.,
Mayor, Town of Durham.

AUDITOR'S OFFICE,
TORONTO, 19th June, 1873.

SIR,—Will you please send me for the use of The Honorable The Attorney-General, a statement of the arrangement as to the payment of the county debt, including that to the Municipal Loan Fund, made between the Town of St. Thomas and the County of Elgin, at the time of separation.

I remain,
Your obedient servant,
(Signed) WM. CAYLEY, *Auditor.*

NOTE.—For reply to above letter see St. Thomas correspondence.

To William McKay, Esq.,
Clerk of County of Elgin, St. Thomas.

AUDITOR'S OFFICE,
TORONTO, 30th June, 1873.

SIR,—We, the undersigned, are instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the County of Elgin, exclusive of St. Thomas, under the Municipal Loan Fund Act, on 1st February, 1874, and that the same amounts to $73,354.03.

The following is a statement of our calculation :—

Debt of the County to the Municipal Loan Fund on 1st January last	$13,139.71
Interest thereon from 1st Jan. 1873 to 1st Feb. 1874	711.72
Total indebtedness on 1st February, 1874	13,851.43

An allowance of $23,540.57 is made to the whole county in respect of the London and Port Stanley Railway, as of 1st January, 1873 Interest on same from 1st of January, 1873, to 1st February, 1874, amounts to $1,275.10, making in all $24,815.67. On deducting the debt as shown above, from this sum, there remains a balance of $10,964.34. Of this balance, St. Thomas receives one-twentieth, and the remainder, amounting to $10,416.03, goes to the county, exclusive of St. Thomas.

The County, exclusive of St. Thomas, is also entitled to receive $62,938.00, being an allowance at the rate of $2 per head of the population according to the census of 1871.

The sum of $73,354.03 going to the county, exclusive of St. Thomas, is to be divided by the Government among the Towns, Townships, and incorporated Villages (other than St. Thomas, in the County), according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolutions, and is to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided by By-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

If there appears to you to be any errors in the foregoing statement, they should be brought to our attention within fourteen days from this date.

We remain,

Your obedient servant,

(Signed) Wm. Cayley, *Auditor.*

(Signed) C. A. Brough.

To William McKay, Esq.,
Clerk County of Elgin.

Auditor's Office,
Toronto, July 21st, 1873.

Sir,—I have been instructed to inform you that a claim has been made by the County of Middlesex, that in the distribution of the allowance of $49,000.00, made under the Municipal Loan Fund Act, to the Municipalities aiding the construction of the London and Port Stanley Railway, it is, in addition to ranking in respect of stock subscribed, also entitled to rank for a sum of $7,701.75 lent to the railway in 1855, and of which loan it has been unable to recover either principal or interest.

If the claim of Middlesex be admitted, the share of the above mentioned railway allowance, credited to the County of Elgin, will be diminished by the sum of $173.00, interest on which, from 3rd May, 1854, to 1st February, 1874, amounts to $278.38, making a total reduction of $451.55 from the sum going to the County of Elgin.

If you wish to resist the claim of the County of Middlesex, you will please forward statement of your objections thereto as soon as possible.

I remain,

Your obedient servant,

(Signed) C. A. Brough.

William McKay, Esq.,
Clerk, County of Elgin.

Elgin County Council Office,
St. Thomas, 1st August, 1873.

Dear Sir,—In reply to yours of the 21st ult., I have been instructed to state, that being without any evidence as to the legitimacy of the claim made by the County of Middlesex for money said to have been advanced by way of loan to the London and Port Stanley

Railway Company, nor as to the nature of the security held by the County for the payment of the same.

We therefore cannot give our consent to the allowance of the claim so made by the County of Middlesex.

I remain,
Your obedient servant,
WILLIAM McKAY,
County Clerk, Elgin.

C. A. Brough, Esq.,
Auditor's Office, Toronto.

AUDITOR'S-OFFICE,
TORONTO, June 9th, 1873.

SIR,—We, the undersigned, have been instructed to inform you, that we have calculated the sum to be paid by the Province to the municipalities in the County of Essex on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $45,009.65.

The following is a statement of the mode in which that sum was arrived at. The arrears of the County debt to the Municipal Loan Fund on 1st January, 1873, were $19,336.94.

According to the census of 1871, the population of the County of Essex was 32,697. The allowance of $2 per head under the 7th paragraph of the Amended Municipal Loan Fund Resolutions, will therefore amount to $65,394.00.

Upon the county debt, as it stood on 1st January last, being deducted from this sum, there remains a balance of $46, 057.06, as of 1st January last, to be paid by the Province from this balance; however, there is to be deducted a further sum of $1,047.41 for interest upon $19.336.94 from 1st January, 1873, to 1st February, 1874, leaving the amount to be paid by the Province to the Municipalities in the County of Essex on 1st February next, $45,009.65. This sum of $45,009.65 is to be divided by the Government among the local Municipalities (towns, townships and incorported villages) in the County, according to their respective populations, as directed by the 7th paragraph of the Resolutions, and is to be paid over for purposes pointed out in the 12th section of the Municipal Loan Fund Act, and provided by by-law of the local municipalities, passed in accordance with the 13th section of the said Act.

In reply to the questions contained in your letter of the 4th instant to the Honourable the Attorney-General, we are to inform you that it is not the intention of the Government to guarantee the debentures given by indebted municipalities in pursuance of the Municipal Loan Fund Act; but if delivered to the municipalities it will be at the market price, whatever that may be at the time, and the Government has taken power to sell the debentures and hand over the money to the municipalities entitled to receive the same—a power which they will probably exercise in order that the sale may be made in the way most advantageous to the municipalities. We refer you to the 9th section of the Municipal Loan Fund Act in regard to these particulars.

If you have any suggestions or objections to make with reference to the foregoing calculations, as to the balance going to the County, you are to make the same within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY, *Auditor.*
(Sinned) C. A. BROUGH, *Act.-Secretary.*

To W. McGregor,
Warden, County Essex.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Eldon on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $10,885 36.

Of this sum, $4,781 36 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $6,104 00 is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
C. A. Brough,
Act.-Secretary.

George W. Millar, Esq.,
Clerk Township Eldon, Woodville.

(Duplicate)

Toronto, June 28th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Elora, on 1st February, 1874, according the provisions of the Municipal Loan Fund Act, and that the same amounts to $4,069 85.

Of this sum, $1,073 85 are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the municipality, amounting to $2,996 00, is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

Clerk, Village of Elora.

Auditor's Office, 23rd Jan., 1874.

Sir,—After full consideration, the Government have decided that the municipalities entitled to share in the Government Railway Allowance, on account of the Wellington, Grey and Bruce Railway, are as follows:—Elora, Fergus, Nichol, Peel, Maryborough, Wallace, Minto and Howick, in proportion to their respective advances, at the rate of $218 18 per $1,000 00.

I am instructed, therefore, to inform you that the amount going to Elora will be $2.181 82.

I remain,
Your obedient servant,
(Signed) W. Cayley,
Auditor.

To the Clerk of Town of Elora.

With undermentioned shares of Railway Allowance, above circular sent to:—

Elora	$2,181 82
Fergus	2,181 82
Nichol	2,181 82

Maryborough	$8,727 27
Peel	8,727 27
Wallace	5,454 54
Minto	14,181 82
Howick	4,363 64

AUDITOR'S OFFICE,
TORONTO, 6th June, 1873.

SIR,—The undersigned have been instructed by the Government to inform you that we have calculated the sum to be paid by the Township of Elizabethtown to the Province, under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find the debt of the Township of Elizabethtown, by the operation of the 5 cent Rule under the 3rd Resolution to be reduced to $98,847 23.

The indebtedness of the Township of Elizabethtown to the Municipal Loan Fund, without the intervention of the five cent rule referred to above, and after receiving the benefit of its Clergy Reserves, Railway and Population allowances would have stood at $244,052 16. The Township is consequently benefited by the application of the 5 cent rule, to the extent of $145,204 93.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act of last session, we beg to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
W. CAYLEY,
Auditor,
C. A. BROUGH,
Acting-Secretary.

To Fred. J. Moore, Esq.,
Treasurer, Township of Elizabethtown, Brockville.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Frontenac on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $54,626 00, being two dollars per head of the population, according to the census of 1871.

This sum of $54,626 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Frontenac, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local municipalities passed after the first day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

To the Clerk, Co. of Frontenac.

(Duplicate.)

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Fergus on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $4,405 85.

Of this sum, $1,073 85 are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $3,332 00 is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

Clerk, Village of Fergus.

Note.—For change in amount of railway allowance coming to Fergus, see circular under Elora correspondence.

AUDITOR'S OFFICE,
TORONTO, June 20th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that the sum to be paid by the Province to the Village of Fort Erie, on the 1st February, 1874, under the Municipal Loan Fund Act, amounts to $3,927 04.

The following is the statement of our calculations: The debt of Bertie and Fort Erie to the Municipal Loan Fund amounted on 1st January last to $25,881 53. Interest on that sum from 1st January, 1873, to 1st February, 1874, amounts to $1,401 90, making total indebtedness of Bertie and Fort Erie on 1st February, 1874, amount to $27,283 43.

Bertie and Fort Erie are entitled as of 1st of January, 1873, to an allowance of $40,644 23, in respect of the Buffalo and Lake Huron Railway; interest on that sum from 1st January, 1873, to 1st February, 1874, amounts to $2,201 56; making the total railway allowance going to both Bertie and Fort Erie on 1st February next, $42,845 79. Upon deducting the debt as given above from this allowance, there remains a balance of $15,562 35, payable on 1st February, 1874, of which balance Fort Erie is entitled to receive $1,636 20 as its share.

Fort Erie is further entitled to receive (as of 1st January, 1873) an allowance of $588 95, in respect of Clergy Reserve moneys retained; interest thereon to 1st February, 1874, amounts to $31 89, making in all $620 84.

Fort Erie also receives an allowance as of 1st February, 1874, of two dollars per head of population, according to the census of 1871, which allowance amounts to $1,670 00.

The total sum of $3,917 04, going to Fort Erie, is to be paid over for such purposes pointed out in the twelfth section of the Municipal Loan Fund Act as may be provided for by by-laws passed after 1st February next, in accordance with the 13th section of the Municipal Loan Fund Act.

Should there appear to be any error in the above statement, it should be brought under notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) WILLIAM CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

Richard Graham, Esq.,
Treasurer, &c., Village Fort Erie.

AUDITOR'S OFFICE,
TORONTO, June 4th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Municipalities of the County

of Grey on 1st of February next, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $117,299 52.

The following is a statement of the mode in which that sum was ascertained:	
The balance of the county debt to the Municipal Loan Fund, on 1st of January, 1873, was	$1,413 96
Interest on this sum under the sixth section of the said Act, from 1st January, 1873, to 1st February, 1874, amounts to.....	76 52
Making together	$1,490 48

According to the census of 1871, the population of Grey was 59,395; the allowance of $2 per head under the seventh paragraph of the Resolution, will therefore amount to $118,790 00, which sum is payable by the Province on 1st of February, 1874. Upon the amount of the county debt, as mentioned above, being deducted from this sum, there remains a balance of $117,299 52, to be paid by the Province to the Municipalities of the County of Grey on 1st of February, 1874.

This sum of $117,299 52, is to be divided by the Government among the various municipalities (Towns, Townships, and Incorporated Villages) in the county, according to their respective populations, as directed by the seventh paragraph of the Resolutions, and is to be paid over for the purposes pointed out in the twelfth section of the Municipal Loan Fund Act, and provided by by-laws of local municipalities, passed in accordance with the thirteenth section of said Act.

If you have any suggestions or objections to make with reference to the calculation of the amount to be paid by the County on the basis of the Resolution, you are to make the same within fourteen days from this date.

We remain,
Your obedient servants,
WILLIAM CAYLEY,
Auditor.
C. A. BROUGH,
Acting Secretary.

To Frederick LePan, Esq.,
Treasurer, County of Grey.

COUNTY TREASURER'S OFFICE,
OWEN SOUND, June 26th, 1873.

SIR,—In reply to yours, with regard to the Municipal Loan Fund, I have to state that this county has paid up in full, and holds receipts to that effect, so that we are entitled to the full amount, say $118,790 00.

Yours most obediently,
(Signed) FRED. LE PAN,
Treasurer, County Grey.

To the Honourable William Cayley,
Auditor, Toronto.

AUDITOR'S OFFICE,
TORONTO, 2nd July, 1873.

DEAR SIR,—You are quite correct; the payments made by you, January, April and May of this year, wiped out the indebtedness of the County of Grey to the Municipal Loan Fund.

You will have noticed, however, that the statement rendered to you was made up as of 1st January, 1873, and consequently would be subject to any corrections which might be necessary, arising out of any subsequent payments. In making out the amounts of upwards of one hundred Municipalities, having balances either to pay to, or receive from, the Govern-

ment, it was necessary to start from the same period, 1st January, 1873, up to which date all the Municipal Loan Fund accounts had been made up.

I remain,
Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

F. Le Pan, Esq.,
Treasurer, County of Grey.

Auditor's Office,
Toronto, 5th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Town of Goderich to the Government, under the Amended Municipal Loan Fund Resolutions of the 26th March last, and that we find the debt of Goderich as reduced under the 3rd Resolution by the 5 cent. rule, and further reduced under the 9th Resolution, by the principle established in the case of the Township of Hope to be $58,932 22.

The following is the statement of our calculation:—

The Local debt of Goderich, which is reduced under the 3rd Municipal Loan Fund Resolution, by the 5 cent. rule, is further reduced under the 9th Municipal Loan Fund Resolution, by the rule established in the case of the Township of Hope.

The original Loan was	$100,000 00
Arrears of interest to 1st January, 1873	55,508 14
Total arrears to 1st January, 1873	155,508 14
Which, less the Railway allowance in respect of the Buffalo and Lake Huron Railway (County allowance) amounting to	10,636 26
The Population allowance	7,908 00
And the Clergy Reserve allowance	5,165 82
Amounting together to	23,710 08

would leave the balance due by Goderich on its local debt, independently of the 3rd and 9th Resolutions, $131,798 06.

Five cents on the dollar on the assessed annual value for 1858, amounts to $4,318 93, say $4,319 00.

The payments by the Town to the County of Huron, on account of the County debt to the Municipal Loan Fund, have been on an average, $1,100 a year. The balance, therefore, to be applied on the local debt yearly, would be, according to the principle established in the case of the Township of Hope (9th Resolution) $3,219 00. $3,219 00, capitalized at 5 per cent. amounts to $64,380 00. From this sum is to be deducted the balance of payments made since the Act of 1859 in excess of interest at 5 per cent. on the sum of $64,380 00, this balance amounts to $5,447 78; and therefore, the debt of Goderich, on 1st January, 1873, must be considered to have been $58,932 26.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by His Excellency, the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

To the Rev. J. C. Fletcher,
Treasurer, &c. &c. &c., Town of Goderich.

GODERICH, 19th June, 1873.

GENTLEMEN,—I was duly honoured by your communication of the 5th current, containing a statement of the indebtedness of our Town to the Municipal Loan Fund, under the late legislation for relieving municipalities in arrears.

And I have now the honour to say that I laid your calculations before the mayor and leading members of our Council, and they join me in stating that whilst we do not profess to have the data which would enable us to test your calculations with perfect accuracy, yet we know enough to enable us to feel confident, that you have done justice to our interests in this matter.

We would respectfully inform you that it would be for our advantage, in settling our debt with this fund, were the Government to pay our Debentures to the County of Huron. I may state that we have good reason to believe that the County would be willing to receive them. With deep respect,

I have the honour to be, Gentlemen,
Your most obedient servant,
(Signed) CHARLES FLETCHER,
Town Treasurer.

To the Honourable W. Cayley, Auditor,
And C. A. Brough, Esq., Acting Secretary.

AUDITOR'S OFFICE,
TORONTO, July 7th, 1873.

DEAR SIR,—In reply to your communication of the 19th ultimo, requesting that the Debentures to be given by the Town of Goderich under the Municipal Loan Fund Act, may be paid over to the County of Huron as a portion of its share of the surplus, I have been instructed to inform you that no definite promise can be made with reference to the matter at present, although it is possible that such an arrangement as you desire may be ultimately effected.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.

To the Rev. Charles Fletcher,
Treasurer, &c., Goderich.

AUDITOR'S OFFICE,
TORONTO, July 12th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Town of Guelph to the Province under the Municipal Loan Fund Act of last session, and that the same amounts to $49,669 31, as of 1st January, 1873.

The following is our calculation:

Debt on 1st January, 1873		$99,230 18
Less allowance in respect of Galt and Guelph Railway..	$31,300 00	
Clergy Reserve allowance (as corrected)...	4,504 87	
Allowance at rate of $2 per head of population, according to census of 1871...	13,756 00	49,560 87
Balance due by Town of Guelph, as of 1st January, 1873...		$49,669 31

We also call your attention to the 6th section of the said Act, which refers to the payment of interest subsequently to the 1st of January, 1873.

Should there appear to you to be any errors in the foregoing calculation, you are to bring the same to our notice within fourteen days from this date.

With reference to the Debentures to be given under the Act, we are instructed to say that a form will be prescribed by his Excellency the Lieutenant-Governor in Council.

We remain,

Your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To S. Harvey, Esq.,
Treasurer, Town of Guelph.

AUDITOR'S OFFICE,
TORONTO, July 12th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Guelph, on 1st February, 1874, under the Municipal Loan Fund Act of last session, and that the same amounts to $15,646 94.

Of this sum, $9,736 94 are for an allowance in respect of the Galt and Guelph Railway; the balance of $5,910 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

The sum of $15,646 94, payable by the Province to the Township of Guelph, is to be paid over for such purposes pointed out in the twelfth section of the said Act, as may be provided for by by-laws passed after 1st February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, you should bring the same to our notice within fourteen days from this date.

We remain,

Your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To A. McCorkindale, Esq.,
Clerk, Township of Guelph.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Haldimand, exclusive of the Townships of Canborough, Moulton, Sherbrooke and Dunnville, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $40,182 00, being two dollars per head of the population, according to the census of 1871.

This sum of $40,182 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Haldimand, other than those Municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excepted above are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,

Your obedient servants,

W. CAYLEY,
Auditor.

C. A. BROUGH,
Act. Secretary.

To Treasurer, County of Haldimand.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Halton, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $45,212 00, being two dollars per head of the population, according to the census of 1871.

This sum of $45,212 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Halton, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

(Signed) W. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Act.-Secretary.

To Clerk, Co. of Halton.

AUDITOR'S OFFICE,
TORONTO, 18th June, 1873.

SIR,—For the information of the Honourable Attorney-General, be good enough to inform me what arrangements were made at the time of the separation of the Town of Belleville from the County of Hastings, with reference to the indebtedness of the County.

Your obedient servant,
(Signed) WM. CAYLEY,
Auditor.

To Thomas Wells, Esq.,
County Clerk, County of Hastings.

In reply to above letter, see correspondence under Town of Belleville.

AUDITOR'S OFFICE,
TORONTO, 27th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the County of Hastings, on the 1st February, 1874, according to the provisions of Municipal Loan Fund Act, and that the same amounts to $8,734 38.

The following is a statement of the mode in which that sum was arrived at :—

According to the census of 1871 the population of the County of Hastings, after deducting that of Belleville, which is separately dealt with, was 41,059; the allowance of $2 per head under the 7th paragraph of the Resolutions, and payable on the 1st February, 1874, amounts to $82,118 00

Deducting therefrom the balance found to be due to the Municipal Loan Fund, as of the date of 1st January 1873, was	$69,612 93	
Interest on this sum from 1st January, 1873, to 1st February, 1874, amounts to	3,770 69	
		73,383 62
Balance due to County		$8,734 38

This sum of $8,734,38 is to be divided by the Government among the Local Municipalities of the County of Hastings, with the exception of the Town of Belleville, according

to their respective populations, as directed by the 7th paragraph of the Resolutions, and is to be paid over for purposes pointed out in the 12th section of the Municipal Loan Fund Act, as provided by by-law passed in accordance with said Act.

Should there appear to be any errors in the above calculations, be pleased to call our attention to them within fourteen days from this date.

We remain,

Your obedient servants,

(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

To T. McAnnay, Esq.,
Treasurer, County of Hastings.

Belleville, County of Hastings,
7th July, 1873.

Sirs,—F. McAnuay, Treasurer of the County of Hastings, handed me your letter of 27th June, in reference to this county's participation in the distribution of the Municipal Loan Fund, from which I discover that you place the amount coming to our county, exclusive of the Town of Belleville, at $8,734 38, payable 1st February, 1874.

I also notice that you put down the "population of the County of Hastings, after deducting that of Belleville, which is separately dealt with, was 48,364, the allowance of $2 per head, under the paragraph of the Resolutions, and payable on the 1st February, 1874, amounts to $82,118." This is evidently an error one way or the other, the population, deducting Belleville, would be 41,059 (and not "48,364") which would be $82,118 00.

I again notice that you put down

"Municipal Loan Fund, as of date 1st January, 1873, was.....	$69,612 93
"Interest on the sum from 1st January, 1873, to 1st February, 1874,	
"Amounts to	3,770 69
	$73,383 62"

To this statement I demur.

I can see no good reason for it, as upon looking over the schedule I find as follows in reference to Hastings:

Total arrears	$69,612 93
Allowance at the rate of $2 per head of population.....	82,118 00
Total amount going to Municipality under resolution.....	12,505 07

Now, as these resolutions state that amount is coming to the Municipality on the 1st February, 1874, I ask by what right or authority you charge $3,770 69 interest, and cut down the $12,505 07 to $8,734 68.

Unless the Act itself has been made different from Table No. 4, first part, page 14 of the printed schedule, I can find no authority for charging interest on the amount found due 1st January, 1873. Not having the Act, I ask for information.

Yours &c.,
Billa Flint,
Warden,
County of Hastings.

To Messrs. Cayley and Brough,
Auditors, Municipal Loan Fund.

Auditor's Office,
Toronto, 9th July, 1873.

Sir,—You are quite correct in observing that the population of Belleville had not been deducted in the paragraph of my letter to which you refer, viz., in the figures 48,364. The population of Belleville, in the census of 1871, is stated to be 7,035, leaving 41,059 for the balance of the county, which, at $2 per head, produces the sum of $82,118 00, as stated in my letter, and verified by you.

It is evident from the latter part of your letter that you are under the impression, either that all interest on the debt of the county ceases from 1st of January, 1873, or that the county is entitled to an offset of its population allowance as of that date. You will find that this is not the case by a reference to the text of which I forward to you a copy without the schedules, as the figures in the latter had not been tested at the time the Act was printed, and which it has been found necessary to correct in many instances, and provision was made for this contingency in the 3rd section. Indeed, section 3 would be a complete answer to your question.

"By what right or authority do the auditors charge interest or change an amount printed in the schedules, presuming such an amount to be incorrect."

But it is not an error, and the County of Hastings would be entitled to receive and would receive $12,505 07, on the 1st day of February, 1874, if it complied with the conditions of the 6th section of the Act, and paid up its interest for the intervening period, from the 1st of January last.

And you will notice by the second section of the Act, that the population allowance is not due or payable prior to the 1st of February, 1874, and consequently cannot be chargeable with interest until after that date should there be any delay in the Government payment.

I remain,
Your obedient servant,
WM. CAYLEY,
Auditor.

I may add that it was at the suggestion of the auditor, that the Honorable the Treasurer consented that the accrued interest should be brought into final settlement with all those Municipalities to which balances would ultimately be payable by the Government.

To Billa Flint, Esq.,
Warden of the County of Hastings, Belleville.

COUNTY TREASURER'S OFFICE.
GODERICH, July 12th, 1873.

SIR,—I beg respectfully to bring under your notice an evident error in the calculations in Table No. 3 A., in connection with the Municipal Loan Fund Act of last session, in which Table the interest is given on the allowance as 5 per cent. compounded.

By the clause of the Resolutions providing for certain allowances to be made to Municipalities, which in past years had aided railways,—which Resolutions are referred to in section 3 of the Municipal Loan Fund Act, and made a part of the said Act,—it is provided that the said allowances "are to be allowed the Municipalities as a payment at the date of the debt therefor being contracted." By this provision in the Resolution it is evident that the allowance must be treated as if it were a cash payment made by the Municipality, and the same rate of interest allowed upon it from the date when the debt was contracted, as has been allowed upon cash payments made by the Municipality towards the liquidation of its debt, which interest upon the sinking fund has always been 6 per cent. per annum, compounded half yearly.

It is true, that since 1861 the interest charged upon the Municipal Loan Fund debts has been only 5 per cent., and Municipalities who have been largely in arrears for interest, and whose railway allowances will be swallowed up by such arrears of interest, will not practically receive or be entitled to 6 per cent. for the whole time on the railway allowances, but even they can clearly claim 6 per cent. from the date of the debt up to the 31st December, 1860, and 5 per cent. thereafter, compounded in the same manner as charged.

But with the Municipalities, which have always paid up their interest, the allowance must be as a credit to the sinking fund; and such allowance will thus, as before stated, bear interest at the rate of 6 per cent. per annum, compounded half yearly, in the same manner as cash payments have been treated. I think, upon looking carefully at the Resolutions and Act, you will see that this my contention is just, and that Table No. 3 A is evidently not

correct, and that the various allowances therein will require to be recalculated in accordance with the positions the Municipality has held, whether in default as to interest or not.

The County of Huron having always paid up its interest, is therefore entitled to have 6 per cent. allowed upon its railway allowance, instead of five as in the table, which will make a very important difference to the county.

The claim I make on behalf of the county is but just and regular, and in accordance with the provisions of the Act and Resolutions, and I feel assured that when your attention is drawn to it the just claims of the county will be acceded to.

Might I ask the favour of a reply after the matter has been taken into consideration and a decision come to.

I have the honour to be, Sir,
Your most obedient servant,
(Signed) A. M. Ross,
Treasurer, County of Huron.

To The Honourable Oliver Mowat,
Attorney-General, Toronto.

Auditor's Office,
Toronto, 16th June, 1873.

Dear Sir,—The Townships of McGillivray and Biddulph claim to have a share of the $200,000 per mile allowance (Railway allowance) going to the County of Huron, in consideration of their having paid, and are paying the amounts severally awarded against them by the Arbitrators about the month of February, 1863, on the separation of their Townships from the County of Huron.

To enable the Government to decide upon the propriety of allowing said claim, it is necessary that they should be supplied with a copy of the accounts submitted to the Arbitrators at that time, which are without doubt filed in your office.

Be pleased to furnish a copy.

Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

To P. Adamson, Esq.,
County Clerk, Huron,

Auditor's Office,
Toronto, July 22nd, 1873.

Sir,—In reply to your letter of the 12th instant, to the Honourable the Attorney-General, urging that the County of Huron should be credited with compound interest on the Railway allowance, under the Municipal Loan Fund Act, at the rate of 6 per cent. per annum, instead of 5 per cent. per annum, as at present.

I have been instructed to say that the alterations which you suggest cannot be made, and for the following reasons:—

The 4th paragraph of the Resolutions is silent as to interest on the Railway allowance.

The allowance of 6 per cent. compound interest on the sinking fund was not directed by any statutory enactment, and was not the legal right of the Municipalities which had balances to the credit of the sinking fund; but the account having been made up in that way before Confederation, it was not thought fit in the new disposition of Municipal Loan Fund debts to allow less interest in respect of the same particulars than the Municipalities had theretofore been credited with. But on the other hand, it was not thought right to give Municipalities the benefit of a like advantage in crediting the interest in respect of the railway allowance, for this allowance compound interest at 5 per cent., seemed ample.

If any change were to be made, so as to make the interest uniform in regard to both classes of accounts, it ought rather to be by reducing the amount of interest allowed in respect of other payments, than in increasing the interest allowed in respect of the railway credit.

I remain,
Your obedient servant,
(Signed) C. A. Brough,
Acting-Secretary,

A. M. Ross, Esq.,
Treasurer, County of Huron.

COUNTY TREASURER'S OFFICE,
GODERICH, August 26th, 1873.

SIR,—I am in receipt of a letter from Mr. Brough of the Audit Office, of date July 22nd, stating that he was instructed to say that the claim made for six per cent. interest on the Railway Allowances cannot be allowed.

The reasons given for the refusal, viz: that no rate of interest is mentioned in the Resolutions, and that the rate of six per cent. heretofore allowed upon the sinking fund was not under the authority of any statute; does not appear to me conclusive and satisfactory.

The Resolutions provide, that the allowances are to be credited as a payment made at the date of the debt being contracted, which must mean that they are to be treated as a money payment made at that date, and to carry interest, and the rate of interest in the absence of any being fixed by statute, must be governed I think by the rate which it has been the practice of the Government to allow upon such payments, and I think it can be fairly argued that the Legislature meant that, by the said provisions in the Resolutions.

I understood from Mr. Cayley, the Provincial Auditor, that he claims that five per cent. compound interest is equal to six per cent. charged as has been the practice in the books of the Department to defaulting municipalities.

If this is so, (which I have not verified) then the alteration I suggest would only affect the allowance to Municipalities which had not been in default, and whose allowances would go as a credit to the Sinking Fund, and it is but right that some little advantage should be given to paying Municipalities over defaulting ones. In all other respects they have had no advantage over those who have repudiated and gone in default.

As this is a matter of some importance to this county, may I ask if the Government would have any objection to have the matter put in the state of a friendly case for decision by some of the Superior Courts, and to act upon the decision given.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) A. M. ROSS,
Treasurer
County of Huron.

To the Honourable O. Mowat,
Attorney-General, Toronto.

COUNTY TREASURER'S OFFICE,
GODERICH, November 11th, 1873.

SIR,—On the 26th August last, I wrote to you, asking if in the event of the Government still adhering to its decision to allow only five per cent. on the railway allowances under the late Municipal Loan Fund Act, the Government would have any objection to submit the matter to the opinion of the Courts.

As the County Council meet in a few days, might I ask the favour of an early reply.

I trust, however, that the Government will see the justice of the contention of the County for an allowance of the same rate of interest as has heretofore been allowed on cash payments.

Your obedient servant,
(Signed) A. M. ROSS,
Treasurer
County of Huron.

To the Honourable O. Mowat,
Attorney-General, Toronto.

AUDITOR'S OFFICE,
TORONTO, July 11th, 1873.

SIR,—We, the undersigned have been instructed by the Government to inform you, that we have calculated the sum with which the City of Hamilton is to be credited by the Province as of 1st January, 1873, and that the same amounts to $228,296.80, which is made up as follows:—

Berlin and Preston Railway Bonds and past due interest; coupons held by the Government	$156,395 20
Allowance in respect of Galt and Guelph Railway (interest from 15th December, 1853)	18,469 60
Allowance at rate of $2 per head of population, according to census of 1871	53,432 00
Total to be credited by Province as of 1st January, 1873	$228,296 80

Of this total, $156,395.20 will be discharged by cancelling the Berlin and Preston Railway Bonds and past due interest coupons. The balance will be paid by the Province to the City of Hamilton, on 1st February, 1874, interest being given on the railway allowance of $18,469.60 from 1st January, 1873, to 1st February, 1874. This interest amounts to $1,004.28, making the sum to be paid by the Province to the City of Hamilton on 1st February, 1874, $72,905.88.

The sum above-mentioned, as being payable by the Province to the City of Hamilton, is to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided for by by-laws passed after 1st February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the amount credited, or in the amount payable to the City of Hamilton, you are to bring the same to our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Act.-Secretary.

Alexander Stuart, Esq.,
Treasurer, City of Hamilton.

Note.—The foregoing refers exclusively to the state of the accounts between the City and the Government in connection with the debt due to the Municipal Loan Fund, and the railway and population allowances, as provided for by the Act of last session

There is, however, another account known as the City of Hamilton interest account, which, under the instructions of the Attorney-General, will have to be brought into the settlement in February next.

A statement of this account was rendered to the City a short time back, showing a balance against the City, as of 1st July, 1872, of $29,727.92. This balance was reduced on the 1st of the month to $28,813.44, by crediting the City with the Clergy Reserve moneys for 1872, less 12 months' interest on the former balance. By calculating the interest on the present balance to the 1st of February next, the period of settlement, the amount then payable will be $29,821.91, to be deducted from $72,905.88, leaving $43,083.97 as the amount to be paid by the Government.

(Signed) W. Cayley, *Auditor.*

Auditor's Office,
Toronto, 27th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Township of Hope to the Province under the amended Municipal Loan Fund Resolutions of 26th March last, and that the same amounts to $34,949 03, as of 1st January, 1873.

We also call your attention to the liability of the Township to pay interest from the First of January last on its debt, (as reduced,) in accordance with the sixth section of the Municipal Loan Fund Act.

Should there appear to you to be any error in the calculation of the amount to be paid by the Township, it should be brought to our notice within fourteen days from this date.

It is understood that the Township holds certain revenue bearing investments made with money obtained from the Municipal Loan Fund, or with the produce of such money; will you therefore be pleased to state for the information of the Government, the particulars of such investments, and of the securities connected therewith, held by the township.

With reference to the debentures to be given under the sixth section of the Municipal Loan Fund Act, we are instructed to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servant,
WILLIAM CAYLEY,
Auditor.
C. A. BROUGH,
Acting-Secretary.

To N. Peters, Esq.,
Clerk, Township of Hope, Carleton.

AUDITOR-GENERAL'S OFFICE,
OTTAWA, 12th March, 1873

MY DEAR SIR,—I gave Mr. Walter Ross for transmission to Williams, a copy of a report of mine, and of an Order in Council founded thereon, in the matter of the Township of Hope.

These documents, which will no doubt be laid before you, give the whole history of the transaction. You ask in your telegrams whether the intention was that Hope should be released from the balance? Now, we never released anything. My argument was, as far as I can recollect,—for I am writing at home (having received your telegram at midnight) but you will see the report yourself,—my argument, I say, was, that Hope would have paid its own interest, and something more, by five cents on its assessment, but that it had to pay its share of the county debt which was gradually being extinguished, and which did not take the whole of the five cents. I proposed therefore that we should be content if it paid five cents in all; the balance not required for the county being credited on its own debt, thus postponing the full amount which it should have paid on this latter, until it was released from any further claims for the former.

The debt was not released, but our claim was not to be pressed for, as long as it paid five cents. But there were three assessments which might be taken as the guide,—its assessment in 1858; its annual assessment for local purposes, and its assessment as equalized for county purposes, and it was to pay five cents on whichever of these three was the highest.

I received Cayley's telegram about the Municipal Loan Fund debtors excluded from the Municipalities Fund, and gave orders for the preparation of the statement.

You will probably have it by to-morrow evening's mail.

Yours, truly,
(Signed) JOHN LANGTON.

To the Honourable the Attorney-General.

(Duplicate.)

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Howick on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $28,342 69.

Of this sum, $2,147 67 are for an allowance in respect of the Wellington, Grey and Bruce Railway, and $15,391.92 are Howick's share of the allowance made to the County of Huron in respect of the Buffalo and Lake Huron Railway.

The remainder of the sum to be paid to the Municipality, amounting to $
is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

NOTE.—The allowance in respect of the Buffalo and Lake Huron Railway is liable to be reduced, as a claim has been put in by the Townships of McGillivray and Biddulph, to receive a portion of the Railway allowance made to the County of Huron.

We remain,

Your obedient servants,

W. CAYLEY, *Auditor.*

C. A. BROUGH.

Clerk, Township of Howick. *Act.-Secretary.*

NOTE.—For change in amount of allowance in respect of Wellington, Grey and Bruce Railway, see circular in Elora correspondence.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Kent, exclusive of Chatham, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $69,522 00, being two dollars per head of the population, according to the census of 1871.

This sum of $69,522 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Kent, other than those municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolutions; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipality excepted above is excepted from sharing in the above allowance, because it has been separately dealt with by the Government.

(Signed) W. CAYLEY, *Auditor.*

(Signed) C. A. BROUGH.

To Treasurer, Co. of Kent. *Act.-Secretary.*

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Kemptville on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $4,926 15.

Of this sum, $3,182 15 are for an allowance in respect of the Bytown and Prescott Railway.

The remainder of the sum to be paid to the Municipality, amounting to $1,744 00 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) W. CAYLEY, *Auditor.*

C. A. BROUGH, *Secretary.*

Clerk of the Village of Kemptville.

AUDITOR'S OFFICE,
TORONTO, July 10th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the City of Kingston on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act of last session, and that the same amounts to $24,814 00, being an allowance at the rate of two dollars per head of the population, according to the census of 1871.

Should there appear to you to be any error in the amount to be paid to the City of Kingston, you are to bring the same to our notice within fourteen days of this date.

The sum of $24,814 00 above mentioned is to be paid over by the Province for such purposes pointed out in the 12th section of the said Act as may be provided for by by-laws passed after the 1st day of February next, in accordance with the 13th section of the said Act.

We remain,

Your obedient servants,

(Signed) W. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Act. Secretary.

To William Ireland,
Treasurer, &c., City of Kingston.

AUDITOR'S OFFICE,
TORONTO, 19th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that the sum to be paid by the Province under the Municipal Loan Fund Act to the Municipalities in the County of Lambton, (as organized for Municipal purposes,) on the 1st of February, 1874, amounts to $72,984 72.

The following is a statement of the mode in which that sum was arrived at:—

The debt of the County on the 1st of January, 1873, was.....	$4,562 18
Interest on that sum from 1st of January, 1873 to 1st February, 1874, amounts to	247 10
Making together.....	$4,809 28

The population of the County of Lambton, as organized for Municipal purposes, was 38, 897, according to the census of 1871; the allowance of $2 per head under the 7th paragraph of the Municipal Loan Fund Resolutions, will therefore be $77,794 00. Upon deducting $4,809 28 from this last amount, there will remain a balance, payable by the Province, on the 1st of February next, of $72,984 72.

This balance of $72,984 72 is to be divided by the Government among the local municipalities (towns, townships and incorporated villages) in the County, according to their respective populations as directed by the 7th paragraph of the said Resolutions; and it is to be paid over for purposes pointed out in the 12th section of the Municipal Loan Fund Act, and provided by by-laws of the local Municipalities passed in accordance with the 13th section of said Act.

If you have any objection to make with reference to the calculations of the amount given to the County of Lambton on the basis of the said Resolutions, you are to make the same within fourteen days of this date.

We remain,

Your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A BROUGH,
Acting Secretary.

To the Treasurer of the County of Lambton.

AUDITOR'S OFFICE,
TORONTO, 6th June, 1873.

SIR,—We, the undersigned, have been directed by the Government to inform you, that we have calculated the sum to be paid by the United Counties of Lanark and Renfrew to the Province under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find that the debt of the United Counties to the Municipal Loan Fund by the operation of the five cent. rule under the Third Resolution, to be reduced to $322,069 93.

The indebtedness of the United Counties to the Municipal Loan Fund, without the intervention of the five cent. rule referred to above, and after crediting them with their railway and population allowances, would have stood at $1,182,857 23. The counties are consequently benefited to the extent of $860,787 30, by the application of the five cent. rule.

If you have any suggestions or objection to make with reference to the foregoing calculations; you are to make the same within fourteen days from this date.

With reference to the Debentures to be given under the Municipal Loan Fund Act of last session, we beg to state, that a form will be prescribed by His Excellency, the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To W. W. Burford, Esq.,
Treasurer, County of Lanark.

AUDITOR'S OFFICE,
TORONTO, 6th June, 1873.

SIR,—I have been instructed by the Honourable the Attorney-General, to inform you that the communication from the Government of the 6th instant, as to the indebtedness of the United Counties of Lanark and Renfrew, under the Municipal Loan Fund Resolutions, was made independently of the considerations of the proposal on behalf of the Canada Central Railway, and that the determination of the Government as to that proposal, will be communicated to you, probably in the course of the next few days.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH,
Acting Secretary.

To W. W. Burford, Esq.,
Treasurer, County of Lanark.

TORONTO, June 30, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the United Counties of Leeds and Grenville, exclusive of the Towns of Brockville and Prescott, and Townships of Elizabethtown, Oxford and Kemptville, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $79,806 00, being two dollars per head of the population, according to the census of 1871.

This sum of $79,806 00, is to be divided by the Government among the towns, townships, and incorporated villages in the United Counties of Leeds and Grenville, other than the Municipalities excepted above, according to their respective populations, as directed by the seventh paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the first day of February next, in accordance with the thirteenth section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excepted above, are excluded from sharing in the above allowance because they have been separately dealt with by the Government.

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting Secretary.

To the Treasurer of the United Counties of
Leeds and Grenville.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the United Counties of Lennox and Addington, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $53,410 00, being two dollars per head of the population, according to the census of 1871.

This sum of $53,410 00 is to be divided by the Government among the towns, townships, and incorporated villages in the United Counties of Lennox and Addington, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

WM. CAYLEY,
Auditor.

C. A. BROUGH,
Acting-Secretary.

To the Treasurer United Counties,
Lennox and Addington.

AUDITOR'S OFFICE,
TORONTO, 27th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid on 1st February, 1874, under the Municipal Loan Fund Act, by the Province to the Municipalities (other than the Towns of Niagara and St. Catherines) in the County of Lincoln, as organized for Municipal purposes, and that the same amounts to $31,583 52, which sum is to be distributed in the manner hereinafter mentioned.

The following is a statement of our calculation :—

On the 1st January, 1873, the County of Lincoln owed to the Municipal Loan Fund the sum of $12,438 16.

By the statute 26th Victoria, cap. 13, the Town of Niagara, and the Townships of Caistor and Gainsborough were relieved from all liability on account of this debt, which must therefore be borne by the remainder of the County, including St. Catherines.

The share of the county debt, which is paid by St. Catherines, amounts to $4,296 67, leaving the amount to be paid by the other Municipalities liable for the debt, as of 1st January last, $8,141 49 interest on $8,141 49 from 1st January, 1873, to 1st February, 1874, amounts to $440 99, making the total indebtedness on 1st February, 1874, amount to $8,582 48.

According to the census of 1871, the population of the County of Lincoln, exclusive of the Towns of Niagara and St. Catharines, was 20,083, the allowance of $2 per head under the 7th paragraph of the Resolutions, payable on 1st February next, will therefore amount to $40,166 00; from this sum has to be deducted the debt of $8,582 48, leaving the balance of $31,583 52 to the credit of the Municipalities, other than the Towns of Niagara and St. Catharines.

This sum of $31,583 52 is to be divided by the Government as follows:—

To the Township of Caistor	$4,332 00
To the Township of Gainsborough	6,032 00
And the Balance	21,219 52

among the remaining Municipalities, other than the Towns of Niagara and St. Catharines, according to their respective populations.

And these sums are to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided for by the by-laws of the Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

The Towns of Niagara and St. Catharines have been excepted above, because they are separately dealt with by the Government.

Should there appear to you to be any error in the foregoing statement, it should be brought to our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) Wm Cayley,
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

To G. P. M. Ball, Esq.,
Treasurer, County of Lincoln.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the United Townships of Laxton, Digby and Longford on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $3,058 35.

Of this sum, $1,358 35 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $1,700 00 is an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date,

We remain,
Your obedient servants,
W. Cayley, *Auditor.*
C. A. Brough.
Act.-Secretary.

D. Staple, Esq.,
Clerk, Laxton, Digby and Longford,
Norland.

Toronto Auditor's Office,
June 14th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the amount to be paid, as of the 1st January last, by the City of London, under the amended Municipal Loan Fund Resolutions of 26th March, 1873, and that the sum amounts to $486,058 60.

We also call your attention to the liability of the City to pay interest from 1st January last on its debt (as reduced), in accordance with the 6th section of the Municipal Loan Fund Act.

If you have any suggestions or objections to make with reference to the calculation of the amount to be paid by the City on the basis of the Resolutions, you are to make the same within fourteen days from this date.

It is understood that the City of London holds certain revenue-producing investments, made with money obtained from the Municipal Loan Fund, or with the produce of such money. You will therefore be pleased to state, for the information of the Government, the particulars of such investments, and of the securities in connection therewith held by the City.

With reference to the debentures to be given under the 6th section of the Municipal Loan Fund Act, we are instructed to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,

Your obedient servants,

W. Cayley, *Auditor.*

John Brown, Esq., C. A. Brough, *Act.-Secretary.*

Treasurer, City of London.

Treasurer's Office,
London, June 27th, 1873.

Gentlemen,—I have to acknowledge the receipt of yours of the fourteenth instant in reference to the indebtedness of the City of London to the Municipal Loan Fund.

The money borrowed by the City was invested as follows:—

$200,000 in stock in the London and Port Stanley Railway Company, and $175,400 in first mortgage bonds of the same Company.

The stock and first mortgage bonds are still held by the City.

I have the honour to be,

Gentlemen,

Your obedient servant,

(Signed) John Brown,

Messrs. Cayley and Brough. *Treasurer.*

London, Ontario,
9th August, 1873.

Sir,—I am instructed by the Municipal Council of the City of London to apply to you to permit the interest on its indebtedness to the Municipal Loan Fund for the current year to be included in the debentures to be issued by the Municipality, under the provisions of the Act of last session relating to that Fund.

The Council has during the present year to provide a large sum in addition to its ordinary expenditure, and the payment of interest on its indebtedness to the Municipal Loan Fund, will seriously affect its financial position, and press with severity on the tax-payers.

The Council therefore trusts that the application may be granted.

I have the honour to be,

Sir,

Your obedient servant,

(Signed) A. McCormick,

To the Honourable the Attorney-General, *Mayor.*

Ontario, Toronto.

London, Ontario,
21st August, 1873.

Sir.—Referring to my communication of the 9th instant, asking your permission that the indebtedness of this Municipality to the Municipal Loan Fund for the current year, may be included in the debentures to be issued under the provisions of the Act of last session, relating to that fund, I have the honour to ask an early reply, and to again urge the reasons therein set forth.

I have the honour to be,

Sir,

Your obedient servant,

Andrew McCormick,

The Honourable the Attorney-General, *Mayor.*

&c. &c. &c., Ontario.

London, Ontario,
December 12th, 1873.

Sir,—Referring to your communication of the 1st instant, addressed to the City Treasurer, we are instructed by the Corporation to say, that application was made by the Corporation under the provisions of the Municipal Loan Fund Act, that the interest for the current year may be added to the principal of the debt to be secured by the City debentures, and that on the 21st of August last, a communication was received from the Attorney-General's office, informing the Mayor, to whom it was addressed, that the Attorney-General was prepared to recommend that the application should be granted, and that an order in Council, would no doubt, be passed in due course for that purpose.

We apprehend that this was overlooked by you, and shall feel obliged if you will communicate with us, informing us how the matter really stands.

We have the honour to be,
Sir,
Your obedient servants,
Scatcherd & Meredith.

To the Honourable William Cayley,
Provincial Auditor.

Auditor's Office,
Toronto, 29th December, 1873.

Gentlemen,—I placed your letter of the 12th instant before The Honourable the Treasurer, and am instructed to reply that the Government has consented to the application of the City of London, to be allowed to pay the interest for the current year on their debts to the Municipal Loan Fund, in debentures.

These debentures are to be distinct from those which are to be issued representing the debt of the city, of which the Treasurer has already been advised.

The Government is expecting to hear from the Corporation of the City for what time it is desired that the debentures representing the interest above referred to, should run. Be pleased to obtain this information, and address your reply to mé.

I remain,
Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

Messrs. Scatcherd and Meredith,
Barristers, London.

Auditor's Office,
Toronto, July 8th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Middlesex, as organized for municipal purposes, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $158,354 67.

Of this sum, $24,816 67 are for an allowance in respect of the London and Port Stanley Railway, and the balance, amounting to $138,538 00, is for an allowance at the rate of $2 per head of the population, according to the census of 1871.

The above mentioned sum of $158,354 67 is to be divided by the Government among the Towns, Townships and Incorporated Villages of the County, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolutions, and it is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, you should bring the same to our notice within fourteen days from this date.

We remain,
Your obedient servant,
(Signed) W. Cayley,
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

James Keefer, Esq.,
Clerk, County of Middlesex.

County Clerk's Office, County of Middlesex,
London, 12th July, 1873.

Gentlemen,—I am in receipt of yours of the 8th instant, notifying me of the portion of the Municipal Loan Fund allotted to this County on account of Port Stanley Railway, and of population.

I beg to inform you, that in addition to the $100,000 of stock subscribed and paid by this county towards the construction of the London and Port Stanley Railway, that this county also loaned the said Railway Company the sum of $7,701 75, in 1855, no part of which has ever been paid to this county, and could not since then be collected.

That amount of $7,701 75, with interest from 1855, is still due, and ought to be taken into account by the Government as having been contributed by the County of Middlesex towards the construction of the London and Port Stanley Railway.

Respectfully yours,
(Signed) James Keefer,
Clerk, County of Middlesex.

To Messrs. Cayley and Brough,
Provincial Auditors.

Auditor's Office,
Toronto, July 21st, 1873

Sir,—I beg to acknowledge the receipt of your letter of the 12th instant, as to the allowance under the Municipal Loan Fund Act to the County of Middlesex, in respect of the London and Port Stanley Railway.

I have been instructed by the Honourable the Attorney-General to say, that the matter will be taken under consideration.

I remain,
Your obedient servant.
(Signed) C. A. Brough.

To James Keefer, Esq.,
Clerk, County of Middlesex, London.

Auditor's Office,
Toronto, November 27th, 1873.

Dear Sir,—In July last a claim was made on behalf of the County of Middlesex, by Mr. James Keefer, the County Clerk, to a larger share of the allowance granted under the Municipal Loan Fund Act, in respect of the London and Port Stanley Railway, than that with which the county had been credited in the statement prepared by the Government, and the reason for the proposed change was stated to be, that in addition to taking the $100,000 stock in the railway, in respect of which the county had been allowed to rank in the distribution of the railway allowance, the county had also made a loan to the railway company of $7,701 75, in 1855.

With a view to determining upon the claim above referred to, it will be necessary for you to furnish information as to the circumstances under which the alleged loan was made, the

date at which the money was paid over to the railway company, or on their behalf, the terms of re-payment, and the securities received by the county for their loan. Also a statement of all payments made by the company, or on their behalf, on account of the principal or interest on the alleged loan.

I remain,
Your obedient servant,
(Signed,) C. A. Brough.

To James Keefer,
County Clerk, Middlesex, London.

Treasurer's Office, Co. Middlesex,
London, December 18th, 1873.

Sir,—In pursuance of instructions from the Municipal Council of this county, I have the honour to furnish to you the following particulars respecting a loan said to have been made in the year 1855, by the County of Middlesex, to the London and Port Stanley Railway Company, to which your letter of the 4th November last to the County Clerk of Middlesex, relates.

As indicated by the books in this office, in which the claim (amounting to $7,701 75,) of the county against said Railroad Company is recorded, it appears that in consideration of the company's having received on 5th January, 1855, in advance of the opening of their railway for traffic, the Middlesex Debentures from the county to the amount of one hundred thousand dollars in payment for the shares subscribed for by the county in the capital stock of the company, said company guaranteed the repayment to this county of all interest paid on their debentures by the county for the period between the first day of January, 1855, and the date of the opening of the London and Port Stanley Railway for traffic.

The railway it appears was so opened on the 24th of September, 1856. The total amount of interest paid by the county on said debentures for the period above mentioned, is a sum of $10,413 75, of this sum said railway company repaid to the county, $2,712 00, leaving an unpaid balance of $7,701 75.

I have the honour to be Sir,
Your obedient servant,
(Signed) Adam Murray, *Treasurer.*

To the Honourable William Cayley,
Auditor.

Auditor's Office,
Toronto, 23rd December, 1873.

Sir,—I am instructed by the Honourable the Treasurer to reply to your communication of the 18th instant, in which you explain the grounds on which the County of Middlesex basis its claims for an increased allotment in respect of aid granted to the London and Port Stanley Railway.

It appears that this claim is in respect of interest on the debentures issued by the County on 5th January, 1855, in advance of the opening of the Port Stanley Railway on the 24th day of September, 1856. In estimating the amount on which to base the allowance to your County, the interest has been calculated from the 3rd day of May, 1854, and added to amount advanced, so that the amount on which the allotment has been based is greater than it would be according to the present calculations of the amount. Under these circumstances the calculation will therefore remain undisturbed, as being more beneficial to your County than that now proposed on their behalf,

I remain,
Your obedient servant,
Wm. Cayley, *Auditor.*

Adam Murray, Esq.,
Treasurer, County of Middlesex.

AUDITOR'S OFFICE,
TORONTO, 4th July, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the District of Manitoulin on the 1st of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $4,022 00, being an allowance at the rate of two dollars per head of the population according to the census of 1871.

If there is supposed to be any error in the above statement as to the amount going to the District, under the said Act, it should be brought under our notice within fourteen days from this date.

The sum of $4,022 00 is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of said Act.

We remain,

Your obedient servants,

(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To the Stipendiary Magistrate,
Manitoulin.

AUDITOR'S OFFICE,
TORONTO, 4th July, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the District of Muskoka on the 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $10,800 00, being an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement as to the amount going to the District under the said Act, it should be brought under our notice within fourteen days from this date.

The sum of $10,800 00 is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-law of the Local Municipality passed after the 1st day of February next, in accordance with the 13th section of said Act.

We remain,

Your obedient servants,

(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To the Stipendiary Magistrate,
District of Muskoka.

AUDITOR'S OFFICE,
TORONTO, January, 1874.

SIR,—I am instructed by the Honourable the Treasurer to inform you, that in consequence of the United Townships of Draper, Ryde and Oakley, and also the Townships of Macaulay and Stephenson, having since the year 1871 been incorporated for Municipal purposes with the County of Victoria, the population allowance allotted to them as part of Muskoka will be deducted from the amount awarded to the District of Muskoka, and be payable to these Townships respectively, as portions of the County of Victoria. I have further to request that you will inform me whether the undermentioned statement of the population of the Townships is correct by the census of 1871:—

United Townships, Draper, Ryde and Oakley	521	population.
Macaulay	868	"
Stephenson	505	"
	1894	"

You will perceive that if the above return is correct, the allowance coming to Muskoka will be reduced by the sum of $3,788 00, being $2 per head on the above population.

I remain,
Your obedient servant,
(Signed) W. CAYLEY,
Auditor.

C. M. Lount, Esq.,
Stipendiary Magistrate, Muskoka,
Bracebridge.

BRACEBRIDGE,
January 23rd, 1874.

SIR,—I am in receipt of your letter informing me of certain deductions from population allowance made to District of Muskoka under Municipal Loan Fund Arrangement Act, on account of Townships of Draper, Ryde, Oakley, Macaulay and Stephenson having been incorporated for Municipal purposes, and forming part of the Municipality of the County of Victoria, and desiring me to inform you whether the statements therein contained of population of those Townships is correct by the census of 1871, and would beg to say, that I have not been able to obtain a copy of census of 1871, but have shown your letter to the different Reeves of the above-named Townships, and they are satisfied that your statement of the population is correct.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) CHAS. LOUNT.

To the Honourable Wm. Cayley,
Provincial Auditor.

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Maryborough, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $13,131 31, of this sum, $4,295 31 are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $8,836 00 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

NOTE.—For change in respect of the amount going to Maryborough on account of the Wellington, Grey and Bruce Railway, see circular under Elora correspondence.

The Clerk, Township of Maryborough.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Markham, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $19,564 03; of this sum, $3,260 03 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $16,304 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
C A. Brough,
Acting-Secretary.

George Eakin, Esq.,
Clerk, Township Markham, Unionville.

Township Clerk's Office,
Markham, October 20th, 1873.

Sir,—As there appears to be some doubt in the minds of the Village Council as to whom they must apply for the village share of the surplus fund to be divided in February next, the following resolution was passed at the last meeting of said Council.

"Mr. McGill, seconded by Capt. T. A. Milne, moved, that the Clerk be and is hereby "instructed to correspond with the Honourable A. Crooks, the Provincial Treasurer, in "regard to the amount due this (Markham Village) Municipality, on account of the Municipal "Loan Fund indebtedness." Carried.

Your reply will be thankfully received.

Yours obediently,
H. R. Carson,
Clerk.

To The Honourable Adam Crooks,
Provincial Treasurer, &c. &c., Toronto, Ontario.

Auditor's Office,
Toronto, 3rd December, 1873.

Sir,—In reply to your letter of the 20th October last, to the Honourable the Provincial Secretary, I am instructed to say that when the conditions prescribed by the Municipal Loan Fund Act of last session, as entitling Municipalities to receive payment of sums credited to them, have been complied with, application for payment should be made through The Honourable the Provincial Treasurer.

I remain,
Your obedient servant,
Wm. Cayley,
Auditor.

To H. R. Carson, Esq.,
Clerk, Township of Markham Markham.

Auditor's Office,
Toronto, June 20th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Middleton, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $4,830 85.

The following is a statement of the mode in which that sum was arrived at :—

$2 per head allowance of population according to the census of 1871, and payable 1st February, 1874	$6,522 00	
Less amount due Municipal Loan Fund, 1st February, 1873, $1,604 26	1,691 15	
13 Months' interest on $1,604 00 to 1st February, 1874, $86 89.....		
		$4,830 85

Should there appear to you to be any error in the above calculation, it should be brought to our attention within fifteen days of this date.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

To P. Dean, Esq.,
Treasurer, Township of Middleton.

Toronto, June 28th, 1873.

Sir,—We the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Minto, on the First of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $16,701 86.

Of this sum, $6,979 86, are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $9,722 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting Secretary.

Clerk, Township of Minto.

For change in respect of amount going to Minto, on allowance for Wellington, Grey and Bruce Railway, see circular in Elora correspondence.

Clifford, 8th July, 1873.

Sir.—I have to acknowledge receipt yesterday of your letter to the late Mr. Kaye, Township Clerk of Minto, dated 30th ultimo, informing me that the sum to be paid by the Province to said Township, on First February, 1874, according to the provisions of the Municipal Loan Fund Act, amounts to $16,701 86, whereof $6,979 86, are for an allowance in respect of the Wellington, Grey and Bruce Railway, and the balance of $9,722, an allowance at the rate of two dollars per head of the population, according to the census of 1871.

Your letter was laid before the Municipal Council of Minto in session, when it was received; and the allowance in respect of the Wellington, Grey and Bruce Railway being very much less than the amount expected, I am directed to request the favour of your explaining on what principle it was ascertained, and why on a bonus of $65,000 given by this Munici-

pality to said railway, only $6,979 86 has been allowed, while to the Township of Arthur, on a bonus of $35,000 granted to the Toronto, Grey and Bruce Railway Company, a sum of $5,250 00 is allowed.

In view of the last mentioned allowance, I am further instructed to enquire why on the bonus of $1,500 granted by Minto to the Toronto, Grey and Bruce Railway, there is no allowance made

I have the honour to be, Sir,
Your obedient servant,
(Signed) W. G. Morison,
Township Clerk, Minto.

The Honourable William Cayley,
Auditor, &c., Treasurer's Department, Toronto.

Auditor's Office,
Toronto, July 12th, 1873.

Sir,—In reply to your letter of the 8th instant, asking for an explanation why on a bonus of $65,000 00 given by the Township of Minto to the Wellington, Grey and Bruce Railway, only $6,979 86 have been allowed, while to the Township of Arthur, on a bonus of $35,000 00, granted to the Toronto, Grey and Bruce Railway Company, a sum of $5,250 00 is allowed; also, why in the bonus granted by Minto to the Toronto, Grey and Bruce Railway, there is no allowance made. I am instructed to say: that by the Municipal Loan Fund Resolutions (as amended) of 26th March last, after reciting that after Confederation, and before the passing of the Railway Aid Act of 1871, divers municipalities had given sums by way of gift or bonus, to divers railways or portions of railways, which, if such commenced prior to 7th December, 1870, would have been entitled to aid under the said Act; and that the sums so given were larger than might have been necessary if the said railways had received aid from the Province in the same way as the Act of 1871 provided, with respect to railways commenced after the said date; it was resolved to make to those Municipalities an allowance as of 1st February, 1874, at the rate of $1,000 per mile, of the portions of railways aided by the said municipalities, such allowance to be divided amongst the said municipalities in proportion to the amount of their said contributions to the railways.

That after Confederation, and prior to the passing of the Railway Aid Act, divers municipalities voted by way of bonus to the Wellington, Grey and Bruce Railway, sums of money amounting in the aggregate to $447,000 00, of which Minto contributed $65,000. The only portion of the Wellington, Grey and Bruce Railway commenced prior to 7th December, 1870, and on that account not entitled to aid under the Railway Aid Act, was the portion from Guelph to Harriston, 48 miles in length. The allowance of $1,000 00 a mile, therefore, amounts to $48,000 00, and when the sum is divided amongst the municipalities contributing in proportion to the amount of their contributions, Minto receives as its share, $6,979 86.

The Township of Arthur receives its allowance in respect of the Toronto, Grey and Bruce Railway.

The portion of this line not entitled to aid under the Railway Aid Act by reason of its having been commenced prior to 7th December, 1870, was 72 miles in length; the allowance to be divided would therefore be $72,000 00; the contributions by way of bonus after Confederation, and prior to the passing of the Railway Aid Act, amounted to 480,000 00, of which Arthur contributed $35,000 00; its share of the $72,000 00 would therefore amount to $5,250 00, according to the principle acted on above.

The reason that Minto receives nothing in respect of the Toronto, Grey and Bruce Railway, is because it did not vote its bonus to aid that railway, until after the passing of the Railway Aid Act of 1871.

I remain,
Your obedient servant,
(Signed) C. A. Brough.
Acting-Secretary.

To W. G. Morison, Esq.,
Township Clerk, Minto.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Mono, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $14,710 00.

Of this sum, $6,750 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $7,960 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
WM. CAYLEY, *Auditor.*
C. A. BROUGH, *Act.-Secretary.*

A. Henry, Esq.,
Clerk, Township Mono,
Mono Centre.

CLERK'S OFFICE, MOULTON AND SHERBROOKE,
STROMNESS, 27th May, 1873.

SIR,—I have the honour, in reply to your letter of the 22nd instant, to make the following statement regarding the separation and arrangement between the Municipality and the Village of Dunnville, viz.:—The separation appears to have taken place at the expiration of the year 1859. An agreement was entered into by the two Municipalities on the 23rd April, 1860, of which the following is an extract:—"That the whole moneys received by either of the said parties from the Clergy Reserves Fund shall be appropriated towards the payment of the Municipal Loan Fund debt, and the deficiency be provided for by the parties of the first part (the Townships) paying at the rate of fifty-two per cent., and the party of the second part (the Village) paying at the rate of forty-eight per cent., and that this agreement shall continue and be in force for the years of our Lord 1860, 1861, 1862, 1863."

On the 17th August, 1864, there was another agreement entered into, which was to continue in force until the 1st January, 1868, of which the following is an extract:—

"Resolved—That the proportion for the Township to pay of the said Municipal Loan Fund debt, be at the rate of fifty-six (56) per cent., and the proportion of the Village at the rate of forty-four (44) per cent."

There has not been any other arrangement made between the parties since that time.

Trusting the above will be satisfactory,

I have the honour to be,
Sir,
Your obedient servant,
(Signed) T. J. GALBRAITH,
Clerk.

The Hon. W. Cayley,
Auditor.

AUDITOR'S OFFICE,
TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Townships of Moulton and Sherbrooke (exclusive of Dunnville) under the Municipal Loan Fund Act, and that the same amounts to $11,986 12.

The following is a statement of our calculations :—

Debt of Moulton and Sherbrooke to Municipal Loan Fund on 1st January, 1873 (for part of which Dunnville is liable).....	$6,834 37
Interest thereon from 1st January, 1873, to 1st February, 1874.....	370 18
Total indebtedness 1st February, 1874.....	$7,204 55

An allowance of $21,424 26, as of 1st February, 1874, is made to the Townships and Dunnville in respect of the Buffalo and Lake Huron Railway. On deducting the debt, as mentioned above, from this amount, there remains a balance of $14,219 71 to be divided between the Townships and Dunnville, of which balance the Townships are entitled to receive 54·77 per cent., amounting to $7,788 12.

The Townships are also entitled to receive $4,198 00, being an allowance at the rate of two dollars per head of the population, according to the census of 1871.

The sum of $11,986 12, payable by the Province to the Townships, is to be paid over for such purposes pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided for by by-laws of the Townships passed after 1st February, 1874, in accordance with the 13th section of the said Act.

If there appears to you to be any error in the foregoing statement, the same should be brought to our attention within fourteen days from this date.

We remain,

Your obedient servants,

(Signed) W. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

To T. J. Galbraith, Esq.,
Treasurer, &c, Townships of Moulton and Sherbrooke.

Toronto, June 27th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to Mount Forest, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $5,740 00; of this sum, $3,000 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway. The remainder of the sum to be paid to the Municipality, amounting to $2,740 00 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain, &c.

Wm. Balfour, Esq.,
Clerk, Mount Forest.

MUNICIPAL LOAN FUND.

Claim of McGillivray and Biddulph to receive a portion of the Railway allowance made under the Municipal Loan Fund Resolutions, to the Counties of Huron and Bruce respectively :—

The facts in connection with the above claim appear from the letters of Thomas Gibson, Esq., M.PP., (15th and 18th March, 1873) and of A. M. Ross, Treasurer of County of Huron, 20th March, 1873, to be substantially as follows :—

The claim is made under section (5) five of the Seventh Municipal Loan Fund Resolution. The township further claim that their share of the railway allowance should be determined according to population.

The township was separated from the then United Counties of Huron and Bruce in 1862.

Upon the separation, all questions as to the liability of the townships for county debts, were referred to arbitrators.

By the award made upon such reference, the townships were directed to pay a lump sum to the counties in satisfaction of their share of county debts; no special mention being made of the debt due by the counties to the Municipal Loan Fund.

That, although in the award no mention was made of such debt to the Municipal Loan Fund, yet the arbitrators took that debt into consideration, then determining the amount to be paid by the townships to the counties; and on the grounds (urged by the townships) that the Municipal Loan Fund debt was contracted in order to aid the Buffalo and Lake Huron Railway, and that such railway was remote from, and of no benefit to the townships, they decided that the townships should not assume any portion of the debt to the Municipal Loan Fund, and that moreover, an allowance should be made by the counties to the townships in respect of past payments by the townships towards the Municipal Loan Fund debt.

That in pursuance of this determination to make an allowance to the townships in respect of past payments by them to the Municipal Loan Fund debt, the arbitrators gave the townships credit to a large amount, on account of a sum to be paid by the townships to the counties for certain gravel roads belonging to the counties, which were transferred to the townships on separation.

Under the above circumstances the counties contend that the townships are not entitled to share in the railway allowance allotted under the Municipal Loan Fund Resolutions to the counties, in respect of the Buffalo and Lake Huron Railway.

NOTE.—Mr. Ross states that the County of Bruce is equally interested with the County of Huron in resisting the claims of the townships, because Bruce was united with Huron at the time when the townships were separated from Huron, and received a portion of the sum paid by the townships under the award.

To His Excellency William Pierce Howland, C.B.,
&c &c. &c.

We, the undersigned, have the honour to report that, in pursuance of the powers conferred upon us by a commission, dated thirty-first day of July last past, and issued, under the Statute 36 Victoria, chapter 47, we proceeded on the 9th day of August instant, in presence of the representatives of all parties, to enquire as to the claim made by the Townships of McGillivray and Biddulph, respectively to share in the allowances credited under the said Act, to the Counties of Huron and Bruce, in respect of the Buffalo and Lake Huron Railway.

That having heard the said parties by their said representatives, and having heard the witnesses on behalf of the parties; we have the honour to report, that in our opinion the said Townships of McGillivray and Biddulph are not nor is either of them entitled to share in the said allowances credited to the said Counties of Huron and Bruce under the said Act.

We have appended hereto a copy of our notes of the evidence taken upon the said enquiry.

Dated this 21st day of August, A.D. 1873.

(Signed) E. B. WOOD.
(Signed) W. CAYLEY.

MUNICIPAL LOAN FUND.

NOTES of evidence taken upon the arbitration as to claim made by the Townships of McGillivray and Biddulph, to an allowance made to the Counties of Huron and Bruce, in respect of the contributions by the counties to the Buffalo and Lake Huron Railway.

TORONTO, August 9th, 1873.

James S. Smith, sworn.—Am member for North Middlesex; Biddulph and McGillivray are in the riding. These townships were part of Huron and Bruce up to 1863. They were

then separated and joined to the County of Middlesex. Arbitrations were held to settle financial questions. Arbitrations were held in the early part of 1863. There was an arbitration in the case of McGillivray. The arbitrator for McGilliviray was Robert Craik, (deceased). for Huron and Bruce, Dr. Wood, and the third arbitrator was John P. Wheeler, of Scarborough. (Copy of award produced and marked "A.")

There was an arbitration also for Biddulph—it was held in the early part of 1863. Dr. Wood was for Huron and Bruce. Francis E. Cornish acted for Biddulph, and T. M. Daly was the third arbitrator. (Award in case of Biddulph produced and marked "B.")

In the case of McGillivray, Judge Elliot acted as counsel for the township, and M. C. Cameron as counsel for the united counties. In the case of Biddulph, Mr. Park, of London, acted as counsel for the township, and M. C. Cameron for the united counties.

The Municipal Loan Fund debt of the united counties was contracted in 1853. The original loan devoted to railways was $500,000 00; of this Perth took $200,000 00, leaving $300,000 00 for Huron and Bruce. McGillivray and Biddulph paid a proportionate portion of the debt up to 1863.

There was no interest paid by the Municipalities for the two first years after the loan was effected, the railway company having paid interest and sinking fund. (Letter marked "C" produced by Mr. Smith, it was received from the Auditor's office.)

I wrote the letter marked "D I," and enclosed the copy of a letter from Judge Elliot, marked "D II," and also a copy of a letter from John P. Wheeler, marked "D III",; also a letter from Thomas Maine Daly, M. P., marked "D IV."; also a copy of a letter from F. E. Cornish, marked "D V."

I was present at a meeting of council of Biddulph, when they passed a resolution claiming the right of participation in the allowance made to the Counties of Huron and Bruce, in respect of the Buffalo and Lake Huron Railway Company. (Copy of resolution produced, and marked "E.")

I was present when a similar resolution was passed by McGillivray.

I was present at the arbitration in case of McGillivray. I was a member of the Council. I have not preserved any memoranda as to the proceedings in the arbitration.. I cannot say that I have any personal knowledge of the arguments actually used in the arbitration.

A considerable portion of the county debt at the separation of McGillivray and Biddulph, was for Gravel Roads.

There were about eight miles of Gravel Roads in Biddulph, they cost about £800 a mile; there were five and a half miles exclusively in the townships, and about five miles between the Townships of McGillivray and Biddulph. There were no roads built exclusively in McGillivray; there were about five miles of road between McGillivray and Biddulph.

The Grand Trunk runs through the southern part of Biddulph, and a corner of McGillivray. There are two stations in Biddulph—Granton and Lucan. There is a station at Ailsa Craig in McGillivray. There is a good deal of business done in McGillivray, at the Ailsa Craig Station.

I know that upon the arbitration, the counsel for Huron and Bruce urged that McGillivray and Biddulph should pay part of the Municipal Loan Fund debt of the counties. I cannot say whether the arbitrators acted in accordance with this contention. I never knew of the counties having released any part whatever of their claims against the townships for contribution.

Paper "F" filed, account of claims by counties.

Dr. Ninian Woods, sworn.—Was arbitrator in case both of Biddulph and McGillivray. Shortly after the award was given I made a report of proceedings to the County Council of Huron and Bruce (Report filed and marked "G.")

That report is correct. The counties originally made a claim for a large sum of money, and that the Townships of McGillivray and Biddulph should pay a portion of the railway debt in proportion to the assessed value of property in the townships and the counties.

The townships on the other hand urged, that, as they received little or no benefit from the railway, they should not be obliged to pay any portion of the debt. Eventually, Mr. Cameron, counsel for the counties, abandoned the claim against the townships for contribution, and an allowance was made by the counties to the townships in respect of past contributions by the townships towards the county's debt. This very much reduced the amount to be paid by the townships.

I know, as a matter of fact, that the Biddulph gravel road was built as a sort of compensation to the township for its contribution to the railway. I was a member of the County Council from 1853 to 1857 inclusive,, and the local representatives from McGillivray and Biddulph pressed the matter upon the council.

I do not recollect from memory what the exact cost of the gravel road was. The five miles in Biddulph was a very costly road, I think it cost over £1,000 a mile ($4,000.)

The road between McGillivray and Biddulph was originally contracted to be built for £800 ($3,200), but there was afterwards about 5 per cent. added by an award between the contractors and the counties.

These roads were toll roads, and the toll gate on the Biddulph road was rented for about $700 00 a year. And as the Township of Biddulph had this as a separate Municipality as between it and McGillivray, the amount awarded to be paid by Biddulph to the counties was greater. The assessed value of property in Biddulph was also greater than that in McGillivray.

These two circumstances account for the difference in the amounts respectively awarded against Biddulph and McGillivray.

The amount to be paid by the townships to the counties was also reduced by making deductions on account of past contributions by the townships towards the railway debt. The Townships of McGillivray and Biddulph were not charged for any gravel roads, except those made in the townships themselves.

Examined by Hodgins.—The gravel road in Biddulph was built as some compensation to the townships for not having the railway through it.

Examined by Mr. Smith.—It was distinctly understood that the townships were not to be charged anything on account of the Municipal Loan Fund debt, and they were not charged anything.

Peter Adamson, sworn.—I am County Clerk of Huron, at time of separation of townships I was Reeve of Township of Stanley, was not present at arbitration. What I know is from official papers in my office (statement marked "H" put in, also a letter from A. M. Ross, Treasurer, County of Huron, dated 20th March, 1873, put in, and marked "I," also filed minutes of proceedings of County Council of Huron and Bruce, printed, marked "J.")

Edmund Patchen, sworn.—At the time of separation I was Township Clerk of McGillivray. Attended all the meetings of the Arbitrators.

"A."

COPY of Award between the United Counties of Huron and Bruce and the Township of McGillivray.

Whereas by an Act of the Parliament of Canada, entitled "an Act to separate the Townships of Biddulph and McGillivray from the County of Huron, and annex the same to the East Riding of the County of Middlesex," being Statute 25 Victoria, chapter 28, is it enacted that, from and after the first day of January in the year of our Lord one thousand eight hundred and sixty-three, the corporation of the Township of McGillivray shall pay the corporation of the United Counties of Huron and Bruce such proportion of the then outstanding debt of the said United Counties, and in such manner as may be determined by arbitration under the provisions of the Act respecting Municipal Institutions in Upper Canada;

And whereas the corporation of the said United Counties having appointed Ninian Woods, of the Township of Stanley, in the County of Huron, one of the said arbitrators, and the corporation of the said Township of McGillivray having duly appointed Robert Craik, of the Township of Dorchester, in the County of Middlesex, another of the said arbitrators: the said two arbitrators did before commencing to arbitrate, appoint John P. Wheeler, of the Township of Scarborough, in the County of York, the third arbitrator;

And whereas the said three arbitrators having taken upon themselves the burden of the said arbitration, and before proceeding to try the matter thereof, having been first duly sworn well and truly to try the matter referred to them by the parties, and to make a true and im-

partial award in the premises, did proceed in the presence of both parties, or their agents, to examine into the matters so referred to them, as aforesaid, and having heard all the evidence submitted to them, do now make their award as follows, namely:

1. That the corporation of the Township of McGillivray shall pay the said corporation of the United Counties of Huron and Bruce the sum of twelve thousand dollars, as and for the proportion of the said outstanding debt of the said United Counties which the said corporation of the The Township of McGillivray ought to pay.

2. That the said corporation of the Township of McGillivray shall pay the said sum of twelve thousand dollars in manner following, that is to say in ten equal annual payments of twelve hundred dollars each, the first payment thereof to be made on the thirty-first day of December, in the year of our Lord one thousand eight hundred and sixty-three, and the like sum of twelve hundred dollars to be paid on the thirty-first day of December in each and every succeeding year thereafter until the said sum of twelve thousand dollars shall be fully paid and satisfied, together with interest on the unpaid principal from the first day of January last at the time of each payment.

In witness whereof, we the said arbitrators have hereunto set our hands to this our award, this fifth day of March, A.D., 1873, in duplicate.

(Signed) Ninian Woods,
Robert Craik,
John P. Wheeler.

In presence of
D. H. Lizars,
William Elliot.

I hereby certify the above to be a true copy of award between the United Counties of Huron and Bruce and the Township of McGillivray.

(Signed) William Frazer,
Township Clerk.

McGillivray, 16th June, A.D., 1873.

Copy of motion passed by McGillivry Council:

Moved by James Marr, seconded by Thomas Hall—

That inasmuch as the Government of Ontario, in their scheme for the settlement of the Municipal Loan Fund Debt, have subsidized the Buffalo and Lake Huron Railroad to the extent of two thousand dollars per mile, this Township having paid its full share of the money borrowed from said fund, while forming part of the United Counties of Huron and Bruce, and having since paid the amount declared by the arbitrator duly appointed by said United Counties and the Township of McGillivray, to be its just share of indebtedness at the time of separation, this Council considers the Township of McGillivray fully entitled to participate in its share of said subsidy, as if it still formed part of the Counties of Huron and Bruce and further, this Council authorizes the Reeve to take the necessary steps, in conjunction with Mr. Smith, our representative, to secure said share of subsidy to this Township.—Carried.

I hereby certify the above to be a true copy of a motion passed by the Municipal Council of the Corporation of the Township of McGillivray, on the 19th day of May, A. D. 1873.

"B."

Copy of award between Township of Biddulph and Counties of Huron and Bruce:

To all to whom these presents shall come.

We, Ninian Woods, of the Township of Stanley, in the County of Huron, Physician; Francis Evans Cornish, of the City of London, Barrister-at-Law; and Thomas Mayne Daly, of the Town of Stratford, in the County of Perth, Esq.,

Send Greeting:

Whereas, by an Act of the Parliament of the Province of Canada, being chapter twenty

eight of the Statute passed in the twenty-fifth year of the reign of Her Majesty Queen Victoria, and in the year of our Lord one thousand eight hundred and sixty two, after reciting that the inhabitants of the Townships of Biddulph and McGillivray had by their petitions represented that it would be advantageous to them that the said Townships should be separated from the County of Huron and annexed to the County of Middlesex, and that it was expedient to grant the prayer of the said petition, it was amongst other things enacted, that upon, from and after the first day of January, one thousand eight hundred and sixty-three, the said Townships should be separated from the County of Huron and annexed to the County of Middlesex, for all purposes whatever, except for the purpose of the representation of the people in the Legislative Council and Assembly, and that from and after the 1st day of January, one thousand eight hundred and sixty-three, the corporations of each of the said Townships respectively should pay to the corporation of the United Counties of Huron and Bruce such proportion of the then outstanding debt of the said United Counties, and in such manner as might be determined by arbitrators, under the provisions of the Act respecting Municipal Institutions in Upper Canada.

And whereas the Corporation of the United Counties of Huron and Bruce and the Corporation of the Township of Biddulph agreed to appoint arbitrators to settle the amount which ought to be paid by the Corporation of the said Township of Biddulph to the Corporation of the United Counties of Huron and Bruce, as their proportion of the outstanding debt of the said United Counties on their separation from the County of Huron, under and by virtue of the said recited Act of Parliament, and we the said Ninian Woods, Francis Evans Cornish and Thomas Mayne Daly, having been duly appointed arbitrators for the purpose aforesaid, the said Ninian Woods having been duly appointed by the Corporation of the said United Counties, by an instrument in writing under the corporate seal of the said corporation; and the said Francis Evans Cornish having been duly appointed by the Corporation of the Township of Biddulph, by an instrument in writing under the corporate seal of the said corporation; and the said Thomas Mayne Daly having been duly appointed in writing by the said two arbitrators appointed by the said Corporation of the United Counties of Huron and Bruce, and by the Corporation of the said Township of Biddulph, respectively; and we the said Ninian Woods, Francis Evans Cornish, and Thomas Mayne Daly, having taken and subscribed the oath required by law in such cases, and having taken upon ourselves the burden of the said arbitration, and having heard the allegations of counsel, and examined the witnesses and evidence produced by the said Corporation of the United Counties of Huron and Bruce, and the Corporation of the said Township of Biddulph, respectively, and having duly considered and duly weighed all the evidence, and all the matters aforesaid, and having agreed upon the same, do make this our award as follows:—

We do order, award and determine—That the Corporation of the Township of Biddulph shall pay to the Corporation of the United Counties of Huron and Bruce the sum of eighteen thousand nine hundred and ninety-six dollars, in three equal payments of six thousand three hundred and thirty-two dollars each. The first of such payments to be made on the thirty-first day of December, one thousand eight hundred and sixty-eight; the second of such payments to be made on the thirty first of December, one thousand eight hundred and seventy-four; and the third of such payments on the thirty-first day of December, one thousand eight hundred and eighty. Interest to be paid at the rate of six per centum per annum on the thirty-first day of December each year, on the amount remaining unpaid, until the whole amount shall be fully paid and satisfied; the first payment of interest to be made on the thirty first day of December, one thousand eight hundred and sixty-three.

And we do further order, award and determine, that the Corporation of the United Counties of Huron and Bruce shall pay the costs of this arbitration and award.

And we do order and declare that the said sum of eighteen thousand nine hundred and ninety-six dollars, is a full and final settlement of all claims and demands between the said municipalities, respecting the indebtedness of the said United Counties on the separation of the said Township of Biddulph from the County of Huron, by virtue of the said recited Act of Parliament.

Witness our hands this sixth day of February, one thousand eight hundred and sixty-three.

(Signed) NINIAN WOODS.
FRANCIS E. CORNISH.
T. M. DALEY.

Signed, published and declared in presence of
(Signed) JOHN DAVIDSON.

"C."

Auditor's Office,
Toronto, 23rd May, 1873.

Dear Sir,—I have been directed by the Honourable the Attorney-General to write to you to request you to state the grounds upon which the Townships of McGillivray and Biddulph claim to be entitled to a share of the allowance allotted under the Municipal Loan Fund Resolutions to the Counties of Huron and Bruce in respect of the Buffalo and Lake Huron Railway.

It is alleged on behalf of the counties, that upon the separation of McGillivray and Biddulph from the Counties of Huron and Bruce, all questions as to the liability of the townships for county debts were referred to arbitration

That by the award made upon such reference, the townships were directed to pay a lump sum to the counties, in satisfaction of their share of county debts, no special mention being made of the debt due by the counties, to the Municipal Loan Fund.

That, although in the award, no mention was made of such debt to the Municipal Loan Fund, yet the Arbitrators took that debt into consideration, when determining the amount to be paid by the townships to the counties; and on the grounds (urged by the townships) that the Municipal Loan Fund Debt was contracted in order to aid the Buffalo and Lake Huron Railway, and that such railway was remote from, and of no benefit to the townships, they decided that the townships should not assume any portion of the debt to the Municipal Loan Fund, and that moreover an allowance should be made by the counties to the townships in respect of past payment by the townships toward the Municipal Loan Fund Debt.

That in pursuance of this determination to make an allowance to the townships in respect of past payments by the townships to the Municipal Loan Fund Debt, the Arbitrators gave the townships credit to a large amount on account of a sum to be paid by the townships to the counties for certain gravel Roads belonging to the counties which were transferred to the townships on separation.

And the counties contend that the railway allowance under the Municipal Loan Fund Resolutions, is made as a compensation for the liabilities incurred by the counties in granting aid to the Buffalo and Lake Huron Railway; that the Townships of McGillivray and Biddulph were discharged from such liability; that credit was given to them as against the counties for all sums paid by them in respect of such liabilities; and that therefore they are not entitled to share in the railway allowance. I have endeavoured to place before you as clearly as I can, the position assumed by the counties in respect of this railway allowance, and shall be glad to hear from you as early as possible, what the Townships of McGillivray and Biddulph have to say in reply.

I am, yours faithfully,
(Signed) Wm. Cayley,
Auditor.

J. S. Smith, Esq., M.P.P.

"D 1."

Ailsa Craig, June 9th, 873.

Dear Sir,—In answer to your letter of the 23rd May, requesting me to state the grounds upon which the Townships of McGillivray and Biddulph claim to be entitled to a share of the railway allowance allotted to the Counties of Huron and Bruce under the Municipal Loan Fund Resolutions, in respect of the Buffalo and Lake Huron Railway,

Permit me to say that the Townships of Biddulph and McGillivray claim that, as they paid while forming part of the united Counties of Huron and Bruce their just and full share of the Municipal Loan Fund debt, and all other debts up to the time of separation. On the first day of January, 1863, said townships were separated from the united Counties of Huron and Bruce, by Act of Parliament, 25 Vic., cap. 18, and annexed to the County of Middlesex.

That Act provided that from and after the 1st day of January, 1863, the corporations of each of the said townships respectively shall pay to the Corporation of the United Counties of Huron and Bruce such proportions of the outstanding debts of the said united counties, and in manner as may be determined by arbitration.

In accordance with that Act, arbitrators were chosen mutually by the united counties and each of the Townships of McGillivray and Biddulph; the debts and liabilities of the united counties were laid before them, and it was plainly seen by all parties that the counties were liable to pay; and with all the facts before them the award was made, requiring the townships to pay the sum of $30,996 (thirty thousand nine hundred and ninety-six dollars) as their share of the Municipal Loan Fund and all other debts; that sum said townships have since paid in accordance with the terms of the said arbitration.

It is true that the claims of the townships were urged on the one hand, and the counties on the other, with counsel on both sides, and after several meetings, and after taking fully into account all claims and liabilities between the united counties and townships, the arbitrators came to the decision above mentioned.

The townships further contend that the counties, at the time of separation, never admitted that the townships were paying for a railway they received no benefit from, but, on the contrary, urged that they should pay the same proportion as any other township in the County of Huron.

And the townships further deny that the arbitrators, when making the award, made an allowance of any amount on account of what the townships paid to the Municipal Loan Fund debt, or that they were charged with a certain amount for gravel roads; in proof of this I refer you to the enclosed letters from His Honour Judge Elliot, London, "Counsel" J. P. Wheeler, Esq., Scarboro', one of the arbitrators for McGillivray, and T. M. Daley, M.P., one of the arbitrators for Biddulph.

These all go to show that the townships not only paid while they formed part of Huron and Bruce, but since the separation have paid the full amount determined by arbitrators to be their full share of all the indebtedness of the Counties of Huron and Bruce, including the Municipal Loan Fund debt. For these reasons the townships consider they are justly entitled to their full share of the railway allowance as much as if they still formed part of the united counties of Huron and Bruce.

I have endeavoured to state the claims of the Townships of Biddulph and McGillivray to a share of the railway allowance to Huron and Bruce, in respect of the Buffalo and Lake Huron Railway. Trusting the Government will see the propriety of granting said claims,

I am, yours very truly,

JAMES S. SMITH.

The Honourable William Cayley.

D II.

Copy of Letter from Judge Elliott:

LONDON, ONTARIO, 22nd March, 1873.

MY DEAR SIR,—I have received your letter of the 19th instant, requesting my opinion respecting the right of the Townships of McGillivray and Biddulph to participate in the proposed grant of $2,000 00 a mile to the Buffalo and Lake Huron Railway.

I need not say, that in my present position, I am debarred from giving my opinion as a lawyer in a matter of this sort, because I understand from your letter that you only ask me the question in entirely an unprofessional way, and mainly because the circumstances of my having acted on behalf of McGillivray at the arbitration, has made me familiar with what occurred there.

I therefore proceed to give you my view of the matter.

The Statute 25 Vict. chap. 28, enacted that McGillivray and Biddulph should be separated from Huron, of which they had formerly formed a part; and that from and after the first day of January, 1863, the corporations of each of the said townships respectively shall pay to the corporation of the United Counties of Huron and Bruce, such proportion of the then outstanding debt of the said United Counties, and in manner as may be determined by arbitration, under the provisions of the Acts respecting Municipal Institutions in Upper Canada.

Well, this arbitration was held, and the award signed by all the arbitrators, and never impeached; the debts of the United Counties were exhibited by the Treasurer of the counties,

and it was plainly seen by all parties what the counties were liable to pay; and with all the facts before them the award was made, requiring McGillivray to pay a certain portion of their liabilities. I cannot remember the items now, but I know that the reference lasted several days, with counsel on both sides, and I have no doubt that everything was taken into consideration that the ingenuity of both sides could suggest. Now, on the 1st day of January, 1853, the debt for the Buffalo and Lake Huron Railway had been incurred; I believe, if so, there is not the slightest possible doubt that McGillivray was charged with its proportion of that debt or liability, whatever we may chose to call it, and it follows, that McGillivray in paying its proportion according to the award, has paid its proportion of the railroad liabilities just as much as if it had continued to remain a portion of the United Counties.

If, for example, McGillivray, while in connection with Huron and Bruce, had been required to pay ($20,000 00) twenty thousand dollars towards the liquidation of the railway liabilities, McGillivray was charged with that sum in effecting the settlement by the reference.

If, then, McGillivray had remained a portion of Huron and Bruce, she would, as I understand the scheme, have unquestionably been entitled to participate in the proposed grant of $2,000 00 a mile; just as much, I consider, she is in common fairness, entitled to participate now in it. Although since 1st January, 1863, she has formed part of Middlesex, she has paid her portion of the debt of Huron and Bruce existing on 1st of January, 1863; as much as Stephen, Osborn or any other township.

As for Biddulph, although not concerned in the reference, I entertain not the slightest doubt that it was conducted in the same manner as in the case of McGillivray.

If in this or any matter I can afford you any assistance, it will afford me much pleasure to do so.

Believe me,
Faithfully yours,
WILLIAM ELLIOT.

To. J. S. Smith, M.PP.,
House of Assembly, Toronto.

"D, III."

SCARBOROUGH, March 21st, 1873.

DEAR SIR,—Yours of the 19th instant to hand last night, asking my opinion with regard to the right of the Township of McGillivray to participate in the $2000 a mile proposed to be given to the County of Huron by the Government scheme.

My opinion is, that at the time of the arbitration between the County of Huron and the Township of McGillivray, all the public works that had been built by the money borrowed from the Municipal Loan Fund and other sources, were taken into account, and if so, I should say that McGillivray should have her proportion of the $2000 per mile to the Buffalo and Lake Huron Railway; but as I have a copy of the amount claimed by the County of Huron from the Township of McGillivray, I think I cannot do better than send it to you, so that you can see the amount claimed under the various heads.

I cannot recollect the amount apportioned to McGillivray, but it was nothing like the amount claimed. Hoping this may be of some assistance to you in coming to an arrangement in the matter,

I remain.
Yours truly,
(Signed) JOHN P. WHEELER.

To J. S. Smith, Esq. M.P.P.

"D. IV."

STRATFORD, 10th June, 1873.

DEAR SIR,—I cannot charge my memory with the details of an award made by Dr. Wood, F. B. Cornish and myself, ten years ago or so. I remember being umpire on the arbitration, Counties of Huron and Bruce *vs.* Township of Biddulph, and I am of opinion that the debt incurred for the Buffalo and Lake Huron Railway was treated as not possible to

yield any return directly, as the Provinces of Ontario and Quebec were united, and the Government could not release the indebtedness of municipalities, and were not granting aid by bonus to any Railways; consequently I think if the County of Huron is credited with two thousand ($2,000) dollars per mile on account of aiding by bonus the Buffalo and Lake Huron Railway, the Township of Biddulph has a just claim on the County of Huron for its share of the Government of Ontario's bonus, but I would recommend the Township of Biddulph to send a competent person to Goderich, and procure from the County Clerk of Huron a copy of the accounts submitted to the arbitrators.

If I saw those accounts, I could give a clearer view of how that portion of the account was considered in making the award.

Yours truly,

(Signed) T. M. Daley.

To Mr. John Hodgins,
Reeve of Township of Biddulph.

"D. V."

Winnipeg, Manitoba, 27th June, 1873.

In re Biddulph and United Counties of Huron and Bruce:

My Dear Sir,—I am this moment in receipt of yours of the 16th instant, making enquiry with reference to the arbitration between Biddulph and McGillivray upon their separation from the Counties of Huron and Bruce. I had nothing to do with regard to the McGillivray matter, but acted as Arbitrator towards Biddulph.

In this case, my recollection is that Biddulph was charged with their share of the Buffalo and Lake Huron Railway Debt, and the award was made on this basis. I think if any benefit results to the counties upon the recent adjustment by your Local Parliament, the township should equitably participate in the benefit.

I intend being in London about 20th or 25th July, and if I can give you any fuller information, shall be only too happy to do so.

Yours truly
F. Evans Cornish.

To J. S. Smith, Esq., M.PP.,
Ailsa Craig.

"E."

Copy of Motion passed by Council of Township of Biddulph.

Moved by Mr. Dagg, seconded by Mr. Garrett:—

That inasmuch as the Government of Ontario in their scheme for the settlement of the Municipal Loan Fund Debt, have subsidized the Buffalo and Lake Huron Railway to the extent of $2,000 00 per mile, this township having paid its full share of the money borrowed from the Municipal Loan Fund, while forming part of the United Counties of Huron and Bruce, and having since paid the amount apportioned to it by the Arbitrators duly appointed by the said counties and Township of Biddulph, is fully entitled to participate in its share of such subsidy, as if it still formed part of the United Counties of Huron and Bruce; and further this Council instructs the Reeve to take all necessary steps in conjunction with Mr. Smith, our local member, to secure said share of subsidy to this township. Carried.

This Motion was passed on the 12th day of April, 1863.

"F."

Statement showing liabilities of United Counties of Huron and Bruce, and proportion claimed from McGillivray computed on the relative assessed value of the Township of McGillivray, and the United Counties on the average of the last eight years for items Nos. 1, 2, 3, 4 and 5, and on the relative assessed value of McGillivray, and the County of Huron on the average of the last five years for items, Nos. 6 and 7:—

Debt.

No. 1.—Municipal Loan Fund	$308,000 00	
Claimed from McGillivray		15,172 00
Eight per cent. proposed to be payable by McGillivray annually until debt is liquidated by investment of Sinking Fund by Government.		
No. 2.—Court House Debentures	$3,600 00	
Claimed from McGillivray		177 00
Payable by annual instalments, with interest at 6 per cent., on 1st of January, 1864 and 1865.		
No. 3.—Maitland Bridge debt	$2,200 00	
Claimed from McGillivray		108 00
Payable, December 31st, 1863.		
No. 4.—Biddulph Gravel Road debt	$5,600 00	
Claimed from McGillivray		275 00
Payable on 20th June, 1864, with interest at 6 per cent.		
No. 5.—Non-Resident Debenture Act	$15,382 82	
Claimed from McGillivray		$757 00
This is an amount charged to non-resident account and applied to general County purposes, and is therefore chargable as a liability, as when the $50,000 00 of debentures mature issued upon this fund, the amount available to redeem them is reduced by the above amount. Payable 1st May, 1865, with interest at 6 per cent.		
No. 6.—Gravel Road debts	$330,993 56	
Claimed from McGillivray		22,066 00
Payable by thirteen annual instalments of $1,697 38, with interest on unpaid principal at 6 per cent. on March 1st and September 1st, each year.		
No. 7.—Wilson, Rowe and Co.'s claim	$10,154 32	
Claimed from McGillivray		676 00
The above is the amount at debit of Gravel Road construction account, after paying award of Wilson, Rowe & Co., and which was not assessed in 1862, but was ordered to be borrowed from Non-Resident Debenture Fund, and to be repayable in three years, payable in three annual instalments with interest on unpaid principal payable at 6 per cent., payable half-yearly on 1st March and 1st September each year		
Total claimed from McGillivray		$39,231 00

"G."

Dr. Wood's Report to the Council in 1863 *in re* Biddulph and McGillivray.

STANLEY, June 23rd, 1863.

SIR,—Referring to the recent arbitration between the United Counties of Huron and Bruce and the Townships of Biddulph and McGillivray, on which arbitration I had the honour to act on the part of the United Counties.

For the information of the County Council I beg to submit the following brief review of the result of those arbitrations, and the views which led to those results, premising that if at first blush the awards do not appear satisfactory, I think most parties who will take the trouble fully to investigate the subject, will admit that they are at least within the limits of the reasonable; at any rate they are the best that I could obtain.

The award in the case of Biddulph is, that the Counties receive in round numbers say $19,000 00 in three quinquennial instalments. The unpaid principal money bearing 6 per cent. per annum, and the Counties paying the costs of arbitration.

In the case of McGillivray the award is for $12,000 00, in ten equal annual instalments, with interest as in the case of Biddulph, the Counties bearing one-half the cost of arbitration.

At both arbitrations it was argued on the part of the Townships concerned, that they were liable to pay only so much of the costs of the Gravel Roads as would cover those portions of roads taken by them respectively, less the amount already paid by them for Gravel Road account; and to enforce this view very lengthy evidence was adduced in proof of the small benefit derived by the Townships from those roads.

The Municipal Loan Fund debt was repudiated, it having been chiefly incurred for the purpose of forwarding the construction of the Buffalo and Lake Huron Railway. That the Townships strenuously opposed this outlay in Council, and subsequently by petition to the Legislature, was fully proven, and that they were forced into it, and since continued to pay interest and sinking fund, was not to be denied. And counsel for the Counties at once ceded the point, and admitted all that was sought to be proven on this head.

The Non-Resident Debentures claim was admitted by the Townships; also, after some cavil, Wilson and Rowe's claim.

The remaining items of account, to wit: the Court-house Debentures, Maitland Bridge Debentures, and the Biddulph Gravel Road account, being items of comparatively small amount, were less vigorously treated, and eventually settled to the satisfaction of all the arbitrators.

Much cavil was made at the state of the County accounts, and of Mr. Ross's statement as furnished to the arbitrators, and no pains were spared to find them faulty; but they stood the test well, and in figures at least were found perfectly correct. But though in figures so correct, and though the Townships would have to pay the sums as shown by those statements, had they continued as parts of the County of Huron; yet in view of separation the result shows a palpable error in the base upon which they were framed, namely, on the assessed value of the Townships, laying all other considerations out of view. For example, both Townships derive equal benefit from the common gravel roads; in addition to which Biddulph takes the Biddulph Gravel Roads profits entirely to itself, and with this advantage on its side would have to pay 25 (twenty-five) per cent. less than McGillivray, according to Mr. Ross's statement.

The Railway indebtedness of the Township was thus admitted only by compulsion, and they claimed a set-off for the amounts already paid on this account.

On the part of the counties it was argued that the townships had benefit from the Grand Trunk Railway fully equivalent to any derived from the Buffalo and Lake Huron Railway by the most favoured portions of the County of Huron. But this line of argument, however sound in fact, could not be upheld, and was effectually set aside by a request on the part of the townships to be shown where the Grand Trunk entered into the items of accounts submitted for our consideration.

Since closing the arbitration, I have heard some dissatisfaction expressed on account of the townships having been allowed time for payment. I freely admit that I did not put the least stress on immediate payment, I aimed only at the gross sums to be paid, and very easily fell into the views of the other arbitrators on the subject of time, not only because I think I did better for the counties by giving time, but because the counties receive interest on the unpaid moneys, which I consider are equivalent to cash payments, particularly taking Mr. Ross's evidence into account, he having shown that the holders of county debentures had refused to allow him to call them in at par. Besides, to press the townships for immediate payment would probably be to them very oppressive, without in any way benefitting the counties.

I may add that before the awards were published I had opportunity of ascertaining the views of the Warden and County Treasurer as to the amount that might reasonably be expected from the townships, which views very closely corresponded with the awards.

In conclusion, I deem it my duty to call the attention of the County Council to the position in which Mr. Richie and Mr. Ross were placed in those arbitrations they were required to attend on the part of the counties.

The arbitrators made no account of the costs of the parties, but left each to settle their own costs, and both these gentlemen were required to attend away from their homes on several occasions, no doubt at much personal inconvenience and pecuniary loss, directly and indirectly sustained.

I have the honour to be,
Your obedient servant,
(Signed) NINIAN WOODS.

To Robert Gibbons, Warden,
Huron and Bruce.

"H."

Total sum expended on Gravel Roads in Biddulph and McGillivray:

Biddulph, $34,420 00; McGillivray, $8,380	$42,800 00
Indebtedness of Counties at the time	707,780 44

McGillivray paid taxes last year, connected with Huron, $5,563 92; Biddulph, $4,626-73; total, $10,190 65, about one-tenth of the total assessment of Huron and Bruce, and only took away about $\frac{1}{23}$ (one twenty-third) of the debt. And take the Gravel Road Debt of Huron, they payed last year, they were with us nearly one seventh, $5,936 53, out of $40,500, and only took one-eleventh ($\frac{1}{11}$) of the debt, $31,000, out of $340,380; of Huron Gravel Road Debt, they ought to have taken $41,488 00 of the gravel road alone, according to the equalized value of 1862. And if these townships had continued in Huron they would have had to pay to the Municipal Loan Fund debts according to the equalized Assessment of the same year, one-twelfth ($\frac{1}{12}$) of the Municipal Loan Fund debt, $2,027 75 out of $24,640-00, to be raised annually, or in other words, at the separation, ought to have assumed $25,388 00 of the Municipal Loan Fund, or a total of $66,876 00 for gravel roads debentures and Municipal Loan Fund.

Biddulph and McGillivray had exclusive benefit of gravel road in Biddulph some years before the other parts of the county.

By-law passed for gravelling this road in 1854, and other county roads, not commenced before 1858. The whole cost amounting to $24,000 00 on Biddulph Road.

TORONTO, March 20th, 1873.

SIR;—I understand that Biddulph and McGillivray are making a claim for a portion of the railway allowance accruing to the County of Huron under the 5th sub-section of the 7th Resolution of the Municipal Loan Fund Scheme, which, on the part of the County, I contend they are not entitled to, on the ground that at the time of the separation of the townships from the County, they did not assume any portion of the Municipal Loan Fund debt.

The total debt of the United Counties of Huron and Bruce on the 31st December, 1862, as shown in the auditor's statement for that year, and published in the minutes of the Council, was $707,780 44. On the separation of those townships, the portion of this debt that was to be assumed by Biddulph and McGillivray was referred to arbitration. These townships contended that they should not be charged with any portion of the Municipal Loan Fund debt, as the Buffalo and Lake Huron Railway, in aid of which the debt was created, was so distant from them (and they having the Grand Trunk Railway passing through the townships) that they derived no benefit from it, and that they should not only take no portion of that debt, but that they should be credited for what they had already paid towards it.

The justice of this claim was, as was well known at the time, allowed by the arbitrators, and although Biddulph and McGillivray actually took with them on separation as their own property gravel roads to the value of $42,800, yet, in consideration of the payments previously made by them towards the Municipal Loan Fund debt, the arbitrators only awarded them to pay, as their proportion, of the whole debts of the Counties of Huron and Bruce, $30,000, viz: Biddulph $18,000 and McGillivray $12,000.

Had these townships been awarded a proportion of the debt, in the same ratio as their assessment was to the total assessment of the counties, the amount to be assumed by them would have been $58,175—the total equalized assessment of the Counties being in 1862, $13,580,796, and the equalized assessment of Biddulph and McGillivray being $1,117.231. I give this to show that in the amount awarded, the arbitrators must have considered that, included in the total, was some debt that from exceptional circumstances these townships should be relieved from.

If then, as I contend, these townships assumed no portion of the Municipal Loan Fund Debt, and that even a reduction was allowed them on account of what they had already paid towards it, I cannot see that they should again claim a portion of the railway allowance to which they have really contributed nothing.

If, however, it is claimed that the awards do not go into particulars, but merely, declare that these townships shall pay a lump sum as their share of the debt of the union, and that the Government cannot enter into any division of the amounts in the award, which do not appear in the documents themselves, I would suggest that the claims of those townships should be left open for further investigation and adjustment, as it would, I believe, be readily granted by both Huron and Bruce, that for whatever portion of the Municipal Loan Fund debt these townships assumed, they would participate in the allowance in the same proportion as the amount so assumed bears to the total Municipal Loan Fund debt of the Counties.

I am surprised to learn, however, that the claim of these townships is not that they should participate in the allowance in proportion to what they paid or assumed, but on the basis of population, which I cannot see has any bearing on the question at all.

The debt was not apportioned according to population at the time of the separation, which would have given them a debt of $64,408 instead of $30,000, and the population, therefore can have no connection whatever with the distribution of the allowance between the separated townships and the Counties of Huron and Bruce.

The County of Bruce is also interested in this, as if these townships are entitled to anything it must come out of the whole allowance given to Huron and Bruce, they being united when the townships were separated, and a proportion of the amounts received from them under the awards has been paid over to Bruce by Huron as part of the assets of the union, at the time of the separation of the Counties.

I have the honour to be, Sir,
Your most obedient servant,
(Signed) A. M. Ross,
Treasurer, County of Huron.

To the Honourable O. Mowat,
Attorney-General, Toronto.

Toronto, June 30, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the municipalities in the County of Norfolk, exclusive of the Town of Simcoe and the Townships of Middleton, Windham and Woodhouse, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $33,958, being two dollars per head of the population, according to the census of 1871.

This sum of $33.958 is to be divided by the Government among the towns, townships and incorporated villages in the County of Norfolk other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolutions, and is to be paid over for such purposes pointed out in the 12th section of the said Act as may be provided for by by-laws of the local municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipalities excepted above are excluded from sharing in the above allowance because they have been separately dealt with by the Government.

(Signed) W. Cayley,
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

To the Treasurer,
County of Norfolk.

Auditor's Office,
Toronto, 5th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the united Counties of Northumberland and Durham, under the Amended Municipal Loan Fund Resolutions of 26th March, is $223,665.31.

The following is the statement of the mode in which that amount was determined :—

The united counties of Northumberland and Durham are not entitled to any railway allowance under either the 4th or the 5th Resolution, nor are they entitled to any allowance under the 6th Resolution in respect of clergy reserve money retained

The population of the united counties, exclusive of the Towns of Port Hope and Cobourg, according to the census of 1871, was 68,055, the allowance of $2 per head, under the 7th Resolution, will therefore amount to $136,110, which sum is credited to the united counties.

The arrears of the debt of the united counties to the Municipal Loan Fund were, on the 1st January, 1873, $359,775 31 ; this sum, less $136,110, the amount to the credit of the counties, leaves the amount to be paid by the united Counties of Northumberland and Durham (exclusive of Port Hope and Cobourg) on 1st January last, $223,665 31.

If you have any suggestions or objections to make with reference to the foregoing statement, you are to make the same within fourteen days.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to say that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,

(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

A. A. Burnham, Esq.,
Treasurer, Counties of Northumberland and Durham,
Cobourg.

Auditor's Office,
Toronto, 6th June, 1873.

Sir,—In compliance with a request made by Mr. McLeod in his letter of 29th ultimo, to the Honourable the Treasurer, we, the undersigned, have been instructed by the Government to inform you that the sum to be paid by the United Counties of Northumberland and Durham, exclusive of the Towns of Port Hope and Cobourg, under the Amended Municipal Loan Fund Resolutions of 26th March last is $223,665.31.

We beg to enclose a copy of a letter sent by us to the Treasurer of the United Counties, which explains the manner in which the amount of the debt was determined.

With reference to the new debentures to be given, we are instructed to say that a form will be prescribed by His Excellency the Lieutenant-Governor in Council. Section 7 of the Municipal Loan Fund Act mentions the manner in which the debentures shall provide for payment. From the same section you will also see that the United Counties will not be compelled to spread the payment of their debt over a period of twenty years.

We remain,
Your obedient servants,

(Signed) Wm. Cayley, *Auditor.*
(Signed) C. A. Brough, *Act.-Secretary.*

To W. Thompson, Esq.,
Warden, Counties of Northumberland and Durham,
Bowmanville.

TREASURER'S OFFICE,
COBOURG, 25th July, 1873.

DEAR SIR.—May I use the liberty of asking you to put me in the proper way of levying the Municipal Loan Fund rate for these Counties, Northumberland and Durham, for the current year. There was a circular sent to the late Treasurer, requesting him to pay 5 per cent. upon the amount of our indebtedness—so I have construed it,—and have sent circulars to the various minor municipalities requesting them to levy that rate for the present year, since which I have learned that I have not done the proper thing ; and in the absence of any proper instruction, I would ask you if you will kindly instruct officially the manner in which, and the amount required to be paid by these Counties for this and future years, and if to be paid over to the Hon. the Treasurer, or whether debentures are to be issued, and we take them up as they become due.

An early answer will oblige,

Yours truly,
(Signed) E. A. MACNACHTON,
Treasurer,
Northumberland and Durham.

To the Honourable the Attorney-General,
Toronto.

AUDITOR'S OFFICE,
TORONTO, 29th July, 1873.

SIR,—In reply to your letter of the 25th instant, to the Honourable the Attorney General, respecting the amounts to be paid during the present, and also during subsequent years, on account of the Municipal Loan Fund debt of the United Counties of Northumberland and Durham, I am instructed to say, that for the present year it will be necessary according to section 6 of the Municipal Loan Fund Act of last session, to levy a sum sufficient to pay interest at the rate of five per cent on the debt as it stood, independently of the Municipal Loan Fund Act, on 1st January last, viz. : $359,775 31, and for every subsequent year, until the reduced debt is paid off, a sum equal to seven per cent. per annum on the amount originally borrowed by the Counties from the fund, viz. : $460,000.00.

The interest for the present year is to be paid in cash. The interest accruing in subsequent years, together with the amount of the debt as reduced, is to be secured by debentures.

The cash is to be paid and the debentures to be delivered to the Honourable the Treasurer of Ontario. Forms of debentures will be furnished as already intimated.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.

(Signed) C. A. BROUGH.
Acting-Secretary.

To E. A. MacNachton,
Treasurer, Counties of Northumberland and Durham.

OFFICE OF WARDEN OF NORTHUMBERLAND AND DURHAM,
COBOURG, October 30th, 1873.

SIR,—Will you please inform me when you will require the debentures for the balance of the indebtedness of the United Counties of Northumberland and Durham to be signed, and will you also kindly advise me as to the length of time of payment. I ask the last question more particularly to be in a position to give our Council at its next session information in reference thereto—some take the position that the time for payment can be extended to twenty years. If my memory is not at fault, you informed Mr. McLeod and myself, during the past summer that this could not be done, but that the Act of last Session of Parliament provides that amounts

equal to those we had paid formerly should be paid until the debt was paid off, which would be done in nine years. Some of our Municipalities contend that we can extend it twenty years.

I should be much pleased if you would give me the asked for informtion.

I have the honour to be, Sir,
Your obedient servant,
(Signed) W. Thompson,
Warden.

To the Honourable the Attorney-General,
Toronto.

Auditor's Office,
Toronto, 3rd December, 1873.

Dear Sir,—In reply to your letter of the 30th of October last to the Honourable the Attorney-General, I am instructed to say, that the engraving of the debentures has not yet been completed, but that as soon as they are received from the engraver they will be forwarded for execution.

By the 7th Section of the Municipal Loan Fund Act, the amount of the annual payments to be made by indebted municipalities is determined. In the case of the United Counties of Northumberland and Durham, this payment amounts to $32,200, and therefore the debt of the Counties will be wiped out in nine years. The reference in the Statute to the period of twenty years for payment of the debentures, is to the effect merely, that no longer period shall be allowed for payment in any case.

I remain,
Your obedient servant
(Signed) Wm Cayley.
Auditor.

To W. Thompson. Esq., Warden, &c.,
United Counties, Northumberland and Durham.

Counties of Northumberland and Durham,
Bomanville, 23rd December, 1873.

Sir,—On referring to statement received from the Department, I learn that the interest on debentures, on account of balance due on the Municipal Loan Fund by United Counties of Northumberland and Durham, is made payable half yearly, on 30th June, and 31st December. Our Counties' Council did not make provision for this amount last June when the rates were struck, it therefore will be very inconvenient for us to meet it. I now write to ask if it could be so arranged that we shall not require to pay interest but once a year, on 31st December each year, when our rates will have been collected. I also notice that the debentures will become due and payable once a year on 31st December, which meets our wishes.

Your will confer a favour by granting the above.

I have the honour to be, Sir,
Your obedient servant,
(Signed) W. Thompson,
Warden.

To the Honourable A. Crooks, Treasurer,
&c., &c., &c.

Treasurer's Office,
Toronto 29th December, 1873.

Sir,—I am in receipt of your letter of 23rd inst.

The Statute of last Session makes it quite clear that the interest for the current year, on the amount of the indebtedness of the United Counties of Northumberland and Durham, as of

1st of January, 1873, should have been assessed for and paid over during the present year. The debt for which the debentures are to be given, does not include this interest.

I assume that for this interest your corporation could easily arrange for its payment.

In regard to the interest on the debentures, it is necessary with a view to their being sold, that the interest should be payable half-yearly; and only five per cent. is asked, this should be satisfactory to the Municipalities.

You will please see that the interest for the current year is remitted to me without delay.

I have the honour to be, Sir,

Your obedient servant,

(Signed) ADAM CROOKS,
Treasurer.

To W. Thompson, Esq.,
Warden, Counties of Northumberland and Durham,
Bowmanville.

AUDITORS' OFFICE,
TORONTO, July 4th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the District of Nipissing on the 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $3,582 00, being an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement as to the amount going to the district under the said Act, it should be brought under our notice within fourteen days from date.

The sum of $3,582 00 is to be paid over for such purposes pointed out in the 12th Section of the said Act as may be provided for by by-laws of the local municipalities, passed after the 1st day of February next, in accordance with the 13th Section of said Act.

We remain,

Your obedient servants,

(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To Stipendiary Magistrate,
Nipissing District.

TREASURER'S OFFICE,
NIAGARA, 7th May, 1873.

DEAR SIR,—In reply to your letter of the 6th instant, I beg to say that the Town of Niagara has never been separated from the County of Lincoln for Municipal purposes; also that our town has always contributed its share towards paying the indebtedness of the county, except that of the loan for the Queenston and Grimsby Road, from which the Town of Niagara and Townships of Caistor and Gainsboro, were exempted by special Act of Parliament. I cannot refer you to the year of that Act. It was while Mr. Simpson was our representative.

Yours truly,

(Signed) JOHN ROGERS,
Treasurer.

Honourable Wm. Cayley, Auditor,
Toronto.

AUDITOR'S OFFICE,
TORONTO, June 14th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Town of Niagara to the Province, as of 1st of January last, under the amended Municipal Loan Fund Resolution of 26th March, 1873, and that the same amounts to $14,205 05.

We also call your attention to the liability of the town to pay interest from 1st January last, on its debt, (as reduced,) in accordance with the sixth section of the Municipal Loan Fund Act.

If you have any suggestions or objections to make with reference to the calculation of the amount to be paid by the town on the basis of the Resolution, you are to make the same within fourteen days from this date.

It is understood that the Town of Niagara holds certain revenue-bearing investments made with money obtained from the Municipal Loan Fund, or with the produce of such money; you will therefore be pleased to state for the information of the Government, the particulars of such investments and of the securities in connection therewith held by the town.

With reference to the debentures to be given under the 6th Section of the Municipal Loan Fund Act, we are instructed to state, that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WM CAYLEY.
Auditor.
(Signed) C. A. BROUGH,
Assistant-Secretary.

To John Rogers, Esq., Treasurer,
Town of Niagara.

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Nichol on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $6,547 85. Of this sum $1,073 85 are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the municipality, amounting to $5,474, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
WM. CAYLEY,
Auditor.
C. A. BROUGH,
Act.-Secretary.

Clerk, Township of Nichol.

For change in amount going to Nichol in respect of the allowance for Wellington, Grey and Bruce Railway, see circular under Elora correspondence.

TORONTO, JUNE 30, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the municipalities in the County of Ontario, exclusive of the Townships of Thorah, Uxbridge and Scott, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $62,426, being two dollars per head of the population, according to the census of 1871.

This sum of $62,426 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Ontario, other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution, and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local municipalities,

passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipalities excepted above are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,

Your obedient servants,

(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

To the Treasurer,
County of Ontario.

Auditor's Office,
Toronto, 19th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that the sum to be paid by the Province, under the Municipal Loan Fund Act, to the municipalities of the County of Oxford (except Woodstock and the Townships of North and South Norwich), on 1st February, 1874, amounts to $70,746 82.

The following is a statement of the mode in which that sum was arrived at:—

The debt of the county on 1st January, 1873, was $5,662 47; interest on that sum from 1st January, 1873, to 1st February, 1874, amounts to $306 71; making, together, $5,969 18.

According to the census of 1871, the population of the County of Oxford was 48,237: the allowance of two dollars per head, under the 7th paragraph of the Resolution, will therefore amount to $96,474. Upon deducting the debt of $5,969 18 from this sum, there remains a balance of $90,504 82. From this sum there is to be also taken $19,758, the shares which would go to Woodstock and North and South Norwich, leaving a balance of $70,746.82 to be paid by the Province to the municipalities in the county, other than Woodstock and North and South Norwich, on the 1st February, 1874, in proportion to their respective populations, as directed by the 7th paragraph of the said Resolutions; and the amounts so paid over are to be applied for such purposes pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided for by by-law of the local municipalities passed in accordance with the 13th section of the said Act.

If you have any objections to make with reference to the foregoing calculations on the basis of the said Resolutions, you are to make the same within fourteen days from this date.

We remain,

Your obedient servants,

(Signed) Wm. Cayley.
Auditor.

(Signed) C. A. Brough,
Acting-Secretary.

To H. P. Brown, Esq.,
Treasurer, County of Oxford.

Auditor's Office,
Toronto, 10th July, 1873.

Sir,—We, the undersigned, have been instructed to inform you, that we have calculated the sum to be paid by the Township of Ops and Town of Lindsay, on account of the Municipal Loan Fund debt of the Township of Ops, and that the same amounts to $39,715 00, as of 1st January, 1873.

Should there appear to you to be any error in the amount stated to be payable on account of the above debt, you are to bring the same to our notice within fourteen days from this date.

We also beg to call your attention to the sixth section of the Municipal Loan Fund Act, which provides for the payment of interest, on the amount found to be due subsequently to the 1st January, 1873.

With reference to the debentures to be given under the sixth section of the said Act, we are instructed to say, that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

It is understood that certain revenue-producing investments, are held by the above mentioned municipalities, which investments were made with the money borrowed or obtained under the Municipal Loan Fund Acts, by the Township of Ops, or with the produce of such money; you will therefore be good enough to furnish us with the particulars of such investments, if any.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough.
Acting-Secretary.

A. O'Leary, Esq., Clerk,
Township of Ops, Lindsay.

Lindsay, July 19th, 1873.

Sir,—Your letter of the 10th instant to hand, with statement of amount, which the Township of Ops and the Town of Lindsay have to pay on account of Municipal Loan Fund indebtedness. On looking over the same I find that there is evidently an error in the figures $39,715 00, as it differs from the amount stated in a former notice to our Treasurer, viz., $37,914 80, which appears to me to be correct.

The assessment of the Township of Ops for 1872, on which calculation (I believe) it is based, was $380,150 00 and our rate, for that year 1¾ cents in the dollar, the extra ¼ cent in ($) the dollar, viz., all that could be raised under 2 cent. rule, would raise $950 75, our portion yearly of $37,914.80 would be $947,87, and for $39,715.00, $992.87, which latter amount is more than we could raise and keep within rate allowed by law, from which it seems clear that $37,914 80 is the correct amount.

The only investment made with the money was in stock of the Port Hope, Lindsay and Beaverton (now Midland) Railway, from which there has not been any revenue received as yet, with the exception of some $148.38, accepted by our Treasurer in 1867, contrary to orders of Council,

This money was paid into the bank to the credit of the Township of Ops, under an agreement for sale of stock, which sale the council refused to ratify. This is the only investment made with the money,

I have the honour to be,
Sir,
Your obedient servant,
A. O'Leary,
Township Clerk.

The Honourable William Cayley,
Auditor, Toronto.

Auditor's Office,
Toronto, July 24th, 1873.

Sir,—In reply to your letter of the 19th instant to the Provincial Auditor, I beg to say that you are correct in supposing that the calculation of the sum to be paid by the Township of Ops, together with the Town of Lindsay, under the Municipal Loan Fund Act, was based upon the assessment of the Township of Ops for 1872.

In accordance with the ninth paragraph of the Amended Municipal Loan Fund Resolution of 27th March last, the balance of two cents in the dollar on the actual assessed value of property in Ops for 1872, after deducting the amount required for ordinary expenses, exclusive of school rates, was considered to be the sum annually payable by the Township. To find the principal of the debt, the sum was capitalized at 5 per cent., and the sum charged to Ops and Lindsay together was double the sum found to be payable by Ops alone, according to the foregoing method of calculation.

In the printed Municipal Loan Fund Schedule of last session the actual assessed value of the property in Ops for 1872, is stated to be $397,150 00, and the rate for ordinary purposes, exclusive of school rates, 1¾ cents in the dollar, which would make the sum to be paid by Ops and Lindsay, $39,715 00.

In your letter of the 19th instant you say that the actual assessed value of property in Ops for 1872 was $380 150 00, the rate being the same as above. This would make the sum to be paid by Ops and Lindsay, $38,015 00, and not $37,914 80.

Will you be good enough to try and explain these variations in the amount stated to be the actual assessed value of property in Ops for 1872; and, before any change can be made in the sum now charged against Ops and Lindsay, it will be necessary for you to furnish a certificate distinctly stating the actual assessed value of property in Ops for 1872.

I remain,
Your obedient servant,
(Signed) C. A. Brough.

To A. O'Leary, Esq.,
Treasurer, Township of Ops,
Lindsay.

Township Clerk's Office, Ops,
Lindsay, July 31st, 1873.

Sir,—Yours of the 24th instant to hand yesterday, since which time I have carefully gone over the assessment roll for the Township of Ops for the year 1872, and find that the total assessment of the said Township is $379,150 00, which is the same as the return I made to the Honourable the Attorney-General in January last, and which I presume is the report you refer to, with the figures 7 and 9 changed. This is the only way I can account for the difference in the amounts.

My last statement to you is incorrect, I having made additions to the assessment roll at two different times in the spring of 1872, got the amounts $379,150 60 and $380,150 00, the last I took to be correct, and so set it down on the roll; but in making up my collector's roll in the fall, I found that these figures would not prove with the amount raised at 1¾ cents in the dollar, and again added up with the result $379,150 00, which at 1¾ cents in the dollar would raise $6,635 95, the difference, 83 cents arising from calling half cents wherever they occurred. I did not change the $380,150 on the assessment roll, from which I took figures for my last statement, without making any fresh addition.

But now having made another addition of the roll, I again find the result, $379,150 00,—this amount proving, with amount raised at 1¾ cents in the dollar, our rate for last year, I am satisfied it is correct.

The amount $397,150 00 I cannot account for in any other way than changing the positions of the 7 and 9 in the proper amount, as that amount at 1¾ cents would give us $314 05 more than we raised.

Hoping that this will be satisfactory,

I remain,
Yours, &c.,
(Signed) A. O'Leary.

To the Hon. Wm. Cayley,
Auditor, Toronto.

Linsday, July 31st, 1873.

I, Arthur O'Leary, of the Town of Linsday, Township Clerk of the Township of Ops, do hereby certify that I have carefully examined and added up the Assessment Roll of the said Township of Ops, for the year one thousand eight hundred and seventy-three, and find that the total assessment of the said township for that year is three hundred and seventy-nine thousand, one hundred and fifty dollars.

(Seal.) (Signed) A. O'Leary.

AUDITOR'S OFFICE,
TORONTO, August 23rd, 1873.

SIR,—In reply to your letter of 31st ultimo, I beg to say that your explanations as to the variations in the assessment for 1872 were satisfactory, and the sum to be paid by Ops and Lindsay has been fixed at $37,915 00.

As to the amount mentioned in the Act, that is evidently a misprint, and would at all events only represent what the debt was supposed to be, at the time when the bill was passed, and prior to the recent audit of the amount due, made under the 3rd Section of the Municipal Loan Fund Act.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.

Arthur O'Leary, Esq.,
Clerk, Township of Ops, Linsday.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Orangeville, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $5,166 00.

Of this sum, $2,250 00 are for an allowance in respect of the Toronto, Grey and Bruce Railway.

The remainder of the sum to be paid to the Municipality, amounting to $2,916 00 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY.
Auditor.

J. S. Fead, Esq.,
Orangeville.

(Signed) C. A. BROUGH.

AUDITOR'S OFFICE,
TORONTO, 4th June, 1873

SIR,—We the undersigned, have been instructed by the Government, to inform you that we have calculated the sum to be paid by the City of Ottawa to the Province of Ontario, under the Amended Municipal Loan Fund Resolutions of 26th March last, and that the same amounts to $36,728 47.

The following is a statement of our calculation:—Aid was granted to the Bytown and Prescott Railway by certain Municipalities to the extent of $414,000; towards this sum, the City of Ottawa contributed $260,000. Of an allowance of $108,000 made under the fourth Resolution to the Municipalities aiding the said railway, the City of Ottawa is hereby entitled as its proportion to $67,826. By the same resolution this sum is to be considered as having been payable by the Province to the City of Ottawa on 17th October, 1853, the date at which the debt of the City to the Municipal Loan Fund was contracted, and compound interest at the rate of five per cent. per annum, has been allowed on the said sum of $67,826 from the last mentioned date to 1st January, 1873; this interest amounts to $105,262 57, making the total sum to be credited by the Province to the City in respect of the said railway, $173,088.57. The population of the City of Ottawa, according to the census of 1871, was 21,545; the allowance of $2 per head under the 7th resolution, will therefore amount to $43,090.

The City of Ottawa is also entitled under the 6th resolution, to an allowance (as corrected) of $26,049 41, in respect of Clergy Reserves money retained.

According to the foregoing statements therefore, the total amount with which the City was to be credited on 1st January, 1873, was $242,227 98.

The arrears of the debt of the City to the Municipal Loan Fund on 1st January, 1873 was $200,000, principal, and $78,956.45 interest, in all $278,956 45. This last mentioned sum, less $242,227 98, the sum to the credit of the City, makes the debt to the Province on 1st January, 1873, $36,728 47.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make the same within fourteen days of this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to say that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH.
Acting-Secretary.

R. H. Thompson, Esq., Treasurer,
City of Ottawa.

OTTAWA, 17th June, 1873.

GENTLEMEN,—I beg to acknowledge the receipt of your letter of the 4th inst., respecting the sum of money due by this City to the Province, under the amended Municipal Loan Fund Resolutions of the 28th March last. As I am without any knowledge of the said resolutions, it is out of my power to offer any remark on the calculations as set forth in your statement.

As the Chairman of the Finance Committee will have to make an appropriation in his estimates to meet this debt, would you kindly inform me, for him, of the time within which the debt must be paid, and the amount of sinking fund required yearly.

I remain, Gentlemen,
Your obedient servant,
(Signed) W. H. THOMPSON,
Treasurer, per T. W. T.

To the Hon. William Cayley, Auditor,
and C. A Brough, Esq., Secretary.

OTTAWA, 23rd June, 1873.

DEAR SIR,—On the 17th instant I posted you a letter, respecting the Municipal Loan Fund. Having received no answer, the Chairman of the Finance Committee is anxious that I would address you again ; we wish to know the time within which the $36,728 47, is to be paid ; also, what amount of sinking fund or instalment must be raised or paid yearly.

We propose sending up the interest at five per cent. on $36,728 47, together with the odd dollars, say $728 47, at the end of this month, so as to leave the balance an even sum.

An early answer would very much oblige.

Your obedient servant,
(Signed) W. H. THOMPSON,
Treasurer.

To the Honourable William Cayley,
Auditor.

AUDITOR'S OFFICE,
TORONTO, 28th June, 1873.

SIR,—I am in receipt of your communication of the 23rd inst., stating that your municipality was prepared to pay at the close of this month 5 per cent. on $36,728 47, and a further sum of $728 47 to reduce the balance to an even sum. Your payment will not effect this, as the interest on your reduced debt for the six months, from the 1st of January last, is 2½ per cent., or $918.21, so that the additional 2½ per cent. which you propose to pay,

will leave again a broken sum. I would suggest your paying in the net amount of 2½ per cent on your reduced debt on account of interest, and $1728 47 or another $1000 or two, according to your present ability, so as to leave an even sum for the principal. I showed your letter of enquiry to the Attorney-General on the subject of the instalment, or sinking fund to be paid yearly. He referred me to the 7th section of the recent Act, of which I mail you a copy, which in your case would pay off the debt in less than three years; say $10,000 Debentures redeemable in one year, $12,000 in two years, balance in three years.

I remain,

Your obedient servant,

W. H. Thompson, Esq., Treasurer, Ottawa.

WM. CAYLEY, *Auditor.*

CHAMBERLAIN'S OFFICE,
OTTAWA, 12th December, 1873.

SIR,—I beg to acknowledge the receipt of a number of papers relating to our Municipal Loan Fund debt. I am led to believe that it is the intention of our corporation to pay off the whole matter in cash at the end of this month, or a very few days thereafter.

The chairman of the Finance Committee wishes me to ask you if you would be so kind as to let him have an account of the said debt up to that time, on the assumption that it is to be paid off in cash. In that case, he understands that a rebate of 8 per cent. will be allowed off.

We have negotiated a loan with an English firm for a large amount, a portion of which is to go towards the debt.

The debentures for the whole amount are now being signed.

Your obedient servant,

W. H. THOMPSON,
Per T. W. T.,
Chamberlain.

The Honourable Wm. Cayley, Auditor, Toronto.

AUDITOR'S OFFICE.
TORONTO, 29th December, 1873.

SIR.—I am instructed by the Honourable the Treasurer, to inform you that a discount of six per cent. on the indebtedness of the City of Ottawa, viz: $2,203 70, on $36,728 47, provided it be paid off during the month of January.

If this is accepted, the net amount of principal will be.....	$34,524 77
Six months interest now due for the year, 1873.....	918 20
	$35,442 97

Be pleased to inform me with as little delay as possible, of the decision of the Corporation as instructions have to be given to the engraver as to the preparation of the debentures,

I remain,

Your obedient servant,

To W. H. Thompson, Esq., Chamberlain, City of Ottawa.

WM. CAYLEY, *Auditor.*

CORPORATION OF THE CITY OF OTTAWA.
January 14th, 1874.

SIR,—I have the honour to transmit to you the accompanying copy of a Report of the City Council, and to state that the amount of the indebtedness of the City of Ottawa to the Municipal Loan Fund, will be paid in accordance with said Report, next week.

I have the honour to be,

Your obedient servant,

To the Honourable William Cayley, Provincial Auditor.

(Signed) WM. P. LETT, *City Clerk.*

Finance Report.

To the Corporation of the City of Ottawa :

With respect to the indebtedness of the City of Ottawa to the Government of Ontario, in the matter of the balance of the Municipal Loan Fund, your Committee submit herewith a letter from William Cayley, Esq., Provincial Auditor, in which he shows that the amount due said Government in said matter is $35,442 97, provided the same is paid before the 1st day of February next.

In ascertaining the above amount, the auditor has allowed a deduction of six per cent only, and not eight per cent. as promised for a cash payment of the debt.

Your Committee recommend that his Worship, the Mayor, be authorized to sign a cheque for the amount due the said Government, less said eight per cent. of a deduction, and that the Chamberlain be instructed to forward the amount of the same to the Treasurer of Ontario, and at the same time call his attention to the fact that a deduction of eight per cent. was promised your worshipful body as an inducement to obtain a cash payment of said indebtedness in lieu of debentures payable in three years, said amount to be paid out of the proceeds of debentures sold for said and other purposes.

(Certified, a true copy,)

(Signed) Wm. P. Lett,
(Seal.) *City Clerk,*

City Hall, Ottawa, January 14th, 1874.

Auditor's Office,
Toronto, 19th January, 1874,

Dear Sir,—Referring to your letter of the 14th instant, and to the Minute of the Finance Committee enclosed in it, I beg to mention that the debt of your Corporation to the Province in the matter of the Municipal Loan Fund, amounts to $36,728 47, which is payable in three annual instalments of $12,242 50, on the 31st December, 1874 31st December, 1875, and 31st December, 1876. The proposed Government allowance of 6 per cent. off $36,728 47, being $2,203 70, will therefore make the deduction equivalent to an investment of 8 per cent. per annum; as you will see more clearly from the subjoined memorandum, and the amount which your Corporation will have to pay in cash will be, $34,524 77; to which add the interest due for 1873, making in all $35,442 97, as mentioned in my letter of the 29th December.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

W. P. Lett, Esq.,
City Clerk, &c &c., Ottawa.

Statement.

1st year Ottawa pays 5 per cent. on		$36,728 47	$1,836 43
2nd " "		24,485 55	1,224 27
3rd " "		12,242 82	612 14
Government allowance, 6 per cent. on		36,728 47	2,203 70
			$5,876 53
1 year 8 per cent on	$36,728 47	$2,938 27	
2 years' " "	24,485 55	1,958 84	
3 years' " "	12,242 82	979 42	
		$5,876 53	

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Oxford, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $21,763 04.

Of this sum, $13,661 04 are for an allowance in respect of the Bytown and Prescott Railway.

The remainder of the sum to be paid to the Municipality, amounting to $8,102 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

To the Clerk, Township of Oxford.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Peel, exclusive of Townships of Albion and Caledon, and Village of Bolton, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $32,738 00, being two dollars per head of the population, according to the census of 1871.

This sum of $32,738 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Peel, other than the Municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excepted above are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

To the Township Clerk,
County of Peel.

AUDITOR'S OFFICE,
TORONTO, 5th June, 1873.

SIR.—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the County of Perth to the Province, under the amended Municipal Loan Fund Resolutions of the 26th March last, and that the same amounts to $143,708 05.

The Town of St. Marys is relieved from any liability to contribute towards the payment of this sum in accordance with the agreement made between St. Marys and the county, upon their separation.

The following is a statement of our calculation.

The County of Perth, exclusive of St. Marys, is entitled to an allowance of $185,145 62, in respect of the Buffalo and Lake Huron Railway under the 4th Resolution.

The population of Perth, exclusive of St. Marys, was by the census of 1871, 43,416; the allowance of two dollars per head, under the 7th Resolution, will therefore amount to $86,832 00 for the county, exclusive of St. Marys.

The County of Perth is not entitled to any allowance in respect of Clergy Reserves retained, under the 6th Resolution.

According to the foregoing statement therefore, the total amount with which the County of Perth, exclusive of St. Marys, is to be credited by the Province, is $271,977 62.

The arrears of the debt of the County of Perth to the Municipal Loan Fund, on 1st January, 1873, were $288,000 00 principal, and $127,685.67 interest, in all $415,685.67. This amount, less $271,977 62, the sum to the credit of the county, exclusive of St. Marys, leaves the debt to be paid by the county, exclusive of St. Marys, to the Province, on 1st January, 1873, $143,708 05.

If you have any suggestions or objections to make with reference to the foregoing calculation, you are to make the same within fourteen days of this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough,
Act.-Secretary.

To A. Monteith, Esq.,
Treasurer, County of Perth, Stratford.

Auditor's Office,
Toronto, 4th July, 1875.

Sir,—I have received a communication from the Auditor-General at Ottawa (Mr. Langton), which will, I think, remove all doubt as to the fact that the County of Perth was duly credited with the amount of the Clergy Reserve moneys payable to the several municipalities of the county for the year 1865. If you will turn to Mr Wood's report on the Municipal Loan Fund, giving the statement of the amount credited to the county, you will find under date 13th July, 1866, the sum of $2,835 60 under the head of cash payments; it should have been in the column headed Clergy Reserves.

The correctness of the statement can readily be tested by a reference to the accounts of the county in your books, as if the sum of $2,835 60 was paid by the county, the entry will be found in your books, and the transmission of a cheque or bank draft can be traced through the bank.

I remain,
Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

To A. Monteith, Esq.,
The Treasurer, County of Perth.

Carlingford, County of Perth,
14th July, 1873.

Sir,—Your letter in reference to Clergy Reserve moneys for 1865, not credited in 1866, is satisfactory. Mr. Monteith handed me the letter, and requested me to answer it.

I remain,
Yours very truly,
(Signed) Wm. Davidson.

To the Honourable W. Cayley,
Auditor, Toronto.

AUDITOR'S OFFICE,
TORONTO, July 23rd, 1873.

DEAR SIR,—As from your letter of the 14th instant to the Honourable Mr. Cayley, it appears that all credits which should have been given to the County of Perth on account of Clergy Reserve moneys, have been given. I am now instructed to reply to the several questions submitted by you for the consideration of the Government.

The first point urged by you was, that in the division amongst the municipalities aiding the construction of the Buffalo and Lake Huron Railway, of the allowance of $322,000.00 made in respect of that railway, the sums contributed by the Towns of Brantford and Stratford should be excluded in determining the aggregate amount invested in the railway, as those towns receive the benefit of the 5 per cent. rule; and that the whole allowance should be divided amongst the other municipalities contributing, exclusive of Brantford and Stratford. In reply to this, I am instructed to say that, according to the construction of the 4th paragraph of the Amended Municipal Loan Fund Resolution of 26th March last, no municipality is to receive a share of a railway allowance, bearing a greater proportion to that allowance than the amount of its contribution bears to the aggregatea mount actually invested by all the municipalities in the railway, and that therefore the sums given by Brantford and Stratford cannot be excluded in determining the aggregate sum invested in the railway.

With reference to your suggestions that compound interest should be allowed on your share of the railway allowance from 1853 to 1860, at the rate of 6 per cent., instead of 5 per cent., on the ground that you were charged with interest at 6 per cent. on your debt during that period, I am instructed to say that, as compound interest at five (5) per cent., the rate which has been uniformly credited on all allowances, exceeds interest at 6 per cent., calculated according to the method in which the Government accounts have been kept, there appears to be no reason why your county should be credited with a higher rate of interest on its railway allowance, than that with which it has already been credited.

As to the third point, that Stratford should be excluded in determining the aggregate amount invested by municipalities in the Buffalo and Lake Huron Railway, on the ground that Stratford received railway debentures to the amount of $100,000, which it sold, on the average, at eighty-nine (89), I am instructed to say that, in making up the aggregate sum of $829,000 invested in the railway, Stratford has been allowed to rank in respect of $11,000 only, and that the grounds suggested by you do not seem sufficient to authorize the total exclusion of Stratford.

With reference to St. Mary's share of the railway allowance, I am instructed to say that it will be credited with 1-17th (one-seventeenth), instead of one-twelfth, as was done in the former calculations.

The debt of the County of Perth to the Municipal Loan Fund, will therefore be $138,757 64, as of 1st January, 1873.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.
Acting-Secretary.

William Davidson, Esq.,
Carlingford.

CARLINGFORD, Co. PERTH, 5th Sept., 1873.

DEAR SIR,—In reply to yours of the 30th ultimo, respecting the indebtedness of the County of Perth, I beg to say that the statement accompanying your letter was unnecessary, so far as showing the amount of our indebtedness is concerned; we have never disputed the correctness of the amount. The objection we made was, that we were not allowed six per cent. on the railway allowance compounded every six months till 31st December, 1860, and five per cent. in the same way afterwards. We were met by Mr. Brough, in his letter, stating that "five per cent., compounded every twelve months on the railway allowance, was more than six per cent. in the way the Government accounts were kept." It was in order to show him that such was not the case, that we forwarded to him a statement based on the principle

adopted by the Government in respect to the railway allowance, which would have reduced our indebtedness some $65,000, and which principle of calculation we would be willing to accept.

You state that "the Attorney.General has already decided on the mode and proportion on which the railway allowance should be distributed," from which we should infer that the basis will not be altered. The only question, therefore, remaining, will be the allowance of interest, which we submit is decided by the Parliament of Ontario, and from the resolutions submitted and adopted we are entitled to the amount at the date of the loan. And we ask nothing more. We either wish to have your principle of calculation as to interest on railway allowance applied to our debt, or to be allowed six per cent. interest and two per cent. sinking fund on the allowance till December, 1860, and five per cent. afterwards compounded every six months in the same way as the Government accounts were kept If thought necessary, we will wait on the Premier who, we are satisfied, will admit the justice of our case.

You will be kiud enough to reply by return of mail,

And oblige,

Yours truly,

WM. DAVIDSON.

To the Honourable Wm. Cayley,
Auditor for Ontario, Toronto.

AUDITOR'S OFFIEE,
TORONTO, October 22nd, 1873.

DEAR SIR,—With reference to the point urged by you, that the allowance made to the County of Perth, in respect of the Buffalo and Lake Huron Railway, should be treated as a payment by the county to the credit of its sinking fund, as of the date when its debt to the Municipal Loan Fund was contracted, and that the county is therefore legally entitled to be credited with compound interest at the rate of six per cent. on each allowance from the date when the debt was contracted until the present time, or at all events until 1860; and that the Government is incorrect in treating the allowance as payment by way of bonus, which should properly have been made to the County at the date when the debt was contracted; and in crediting the county with compound interest on such allowance from the date when the debt was so contracted until the present time at the rate of five per cent. only. I am instructed to say that the Government does not consider that the county is so lgeally entitled, and cannot consent to make the alterations urged by you.

The reasons for the refusal will be best understood by stating generally the circumstances connected with the subject of interest.

It will be observed that the Resolution is silent as to interest It will also be observed that there is nothing in the Resolution which warrants the conclusion that the Railway allowance should be treated as a payment by the County on accouut of the siuking fund, rather than as a payment which should have been made by the Government to the County by way of bonus, the words being: "It is expedient to credit to such * * * municipalities * * * their shares of $2,000 00 a mile, * * * to be allowed as a payment at the date of the debt * * * being contracted." In fact, the tenor of the Resolutions favours the latter construction, for many of the municipalities receiving allowances under the same paragraph of the Resolutions, never borrowed from, or were indebted to, the fund, and therefore it is impossible to treat their allowances as payment on account of their sinking fund.

But admitting that the allowance is to be treated as a payment made by the County to the credit of the sinking fund, as of the date when its debt was contracted, it does not follow that the County is to be allowed compound interest on such payment at the rate of six per cent.

No one of the Municipal Loan Fund Acts when referring to the formation of a sinking fund has specified the rate of interest to be allowed by the Government on sums paid towards that fund by indebted municipalities, the directions being that the Receiver-General shall invest such sums with the approval of the Governor-General, and credit the municipalities with the "proceeds of such investments." In the present case no investment has, as a matter of fact, been made, therefore there can be no "proceeds of such investment," with which to credit municipalities.

The municipalities are not therefore legally entitled to any interest at all. The Government have, however, considered that some interest should be allowed. In determining the rate they have been influenced by two considerations: first, their ability to pay; next, the impropriety and unfairness to the unindebted portion of the Province of allowing indebted municipalities a higher rate of interest than that which they had been called upon to pay; both these considerations being controlled by the necessity of adopting some uniform rate of interest applicable as well to those municipalities which had never been indebted to the Municipal Loan Fund, as to those which had.

The first of the above considerations would be sufficient to determine the question raised, for the Government do not consider that it is expedient to allow a higher rate of compound interest than five per cent., regard being had to the surplus to be distributed.

As to the second consideration mentioned above, municipalities indebted to the Municipal Loan Fund were legally liable to pay compound interest, calculated in the ordinary way, at the rate of six per cent. on their debt. They, as a matter of fact, were only charged interest at six per cent. up to 1860, and since that time at five per cent., this interest not being calculated in the ordinary way, but according to a method adopted by the former Province of Canada, which makes the interest with which they have been charged considerably less than the ordinary compound interest. No doubt, ordinary compound interest at six per cent. has heretofore been credited in respect of actual payments made towards the sinking fund, but this course was a mere matter of favour; it was not directed by any statutory enactments, and was not the legal right of the municipalities so credited.

The account, however, having been made up in that way before Confederation, it was not thought fit, in the new disposition of the Municipal Loan Fund debts, to allow less interest in respect of the same particulars than the municipalities had heretofore been credited with.

But on the other hand, it has not been thought right to give municipalities the benefit of a like advantage, in crediting interest on the railway allowances.

Under the foregoing circumstances, five per cent. compound interest has appeared to be the rate of interest which approaches most nearly to that with which indebted municipalities have been charged, regard being had to the necessity of adopting some uniform rate, applicable as well to the case of those municipalities which had never been indebted to the Municipal Loan Fund, as to those which have.

If any change were to be made, and the mode of calculating interest altered, it would rather be by charging indebted municipalities with six per cent. ordinary compound interest on their debt up to the present time, and crediting them with five per cent. interest only on the sums paid towards their sinking funds, than by crediting them with compound interest at six per cent. on their railway allowances, and charging them with interest on their debts at the reduced rates with which they have been charged.

In addition to the method urged by you, and that adopted by the Government, as to the manner in which the Railway allowances should be credited, a third mode might be followed, namely, by cancelling a portion of the debt corresponding to the amount of the railway allowance, as of the date when the debt was contracted; but, as according to this mode your debt would be greater than it now is according to the Government calculation,—the rate of interest with which you have been charged being less than that with which you have been credited,—it is not supposed that you desire this mode to be followed.

I remain,

To W. Davidson,
Chairman, Finance Committee,
County of Perth.

Your obedient servant,
C. A. Brough.

County of Perth,
Carlingford, November 6th, 1873.

Dear Sir,—In answer to yours of the 22nd October, I beg to say, there is a good deal foreign therein to what I contended for in my letters to the Honourable Mr. Cayley and yourself; I only asked to be allowed *the same interest and in the same manner on our railway allowances as we were charged on our indebtedness*, for the just reason that the allowance was to be credited at the date of the loan.

I admit that the Resolutions are silent as to interest, and for that reason we ask to have it allowed and credited at the time of the contraction of the loan, or the same interest allowe that we have been charged

You state that in determining the rate of interest, they were influenced by two consid erations, "ability to pay, and fairness to the indebted." These were certainly very prope questions to be considered previous to the passage of the Resolutions, by the representatives of the people; but when they have been passed, granting the amount at the date of the loan, we contend either it must be allowed at that date, or the same interest allowed we have been charged, *and in the same manner.*

To those municipalities who have not borrowed, and receive allowances.—they have never paid the Government six per cent., and hence have no reason to complain when they are allowed five per cent.; for we question their right legally to any, as the amount was to be "credited" which presumed they were or had been indebted. And if municipalities who have not borrowed from the fund are benefitted by this rule, those municipalities who have incurred debts by borrowing from other sources for public improvements, and who, if they had borrowed from the fund, would have come under the five cent. or two cent. rule, should also participate in the benefits from the rule they would come under: for instance, the Town of Mitchell, in this county, borrowed largely to assist in building a gravel road and are still in debt therefor. Now, in the year 1872, there was levied on all their real and personal property two cents. in the dollar, from which if they had loaned from the fund they would now be relieved whereas they get nothing; but if the principle of assisting non-borrowers in the Railway Allowance Resolution is admitted, it should also extend to the other rules.

You further state that regard was had to the surplus to be distributed; this may be a question the Government have to consider, but you must admit that we are legally entitled to the terms of the Resolution notwithstanding.

If the surplus is not sufficient to meet the expectations of the Government in framing those Resolutions, the municipalities receiving the railway allowances should not suffer more than the others, those benefitted by the five and two cent. rules and also those who have had some special way of getting relieved of a further sum, such as Goderich, Stratford and Hope, should also bear a part.

The difference between "six per cent. in the ordinary way, and a method adopted by a former Province of Canada" I cannot understand. I would like to have it illustrated in a practical way, as I have tried your accounts, and they bear interest at 6 per cent. until 1860, compounded every four months; however, we only wish to have it allowed on our railway allowance in the same manner as charged.

You also state that we had no right to six per cent. allowed on our payment, and it was only a matter of favour.

I think you will admit that we had a just right to be allowed the same interest on our payments that we were charged on our indebtedness, although there may have been no statutory enactment. And when the old Province of Canada, our original creditors, saw fit to do so, we shall look to the Liberal Government of Ontario, with its exchequer full, to deal with us in the same just manner.

We claim it from their own Resolutions, and we want it.

As to the last part of your letter, that our debt would be greater by crediting the amount at the date of the loan, and charging interest in the ordinary way, and not allowing us the same rate of interest on our payments that we were charged on our debt, we submit that when the Resolutions were passed, allowing the amount at the date of the loan, no such thought as changing the rate of interest ever was contemplated, and that therefore crediting it at that time will be the same as 6 per cent. until 1860, and 5 per cent. thereafter, compounded every six months, with which we shall be satisfied, and nothing less, as we claim it as our right.

The Committee have desired me to ask for an interview with the Premier, at as early a date as possible, as our Council meets on the 8th of December next, and we wish to have a proper understanding previous to that time.

An early answer will oblige,

Yours truly,

WM. DAVIDSON,

Chairman.

To C. A. Brough, Esq.,
Auditor's Office, Toronto.

COUNTY of PERTH,
CARLINGFORD, January 19th, 1874.

DEAR SIR,—You will remember that when we were down in Toronto, in connection with the Municipal Loan Fund indebtedness, an agreement was come to, that a statement would be furnished relative to said indebtedness, calculated on the ordinary way of compounding interest. I have never received it, nor any information relative to the same, except your telegram to me at Stratford. As our County Council will meet on the 27th instant, would you be good enough to inform me of the action taken, if any.

I have noticed that the Government have introduced a Bill to correct some figures relating to said fund, but am not aware of its particulars.

Please answer by return of mail, and oblige

Yours, &c,
W. DAVIDSON,
Chairman.

To the Honourable Adam Crooks,
Provincial Treasurer, &c.

AUDITOR'S OFFICE,
TORONTO, 21st January, 1874.

SIR,—There has been some delay in having the calculations made I promised. I now submit the result of the three modes on which the calculations have been made.

By Mode No. 1.—

Debt as calculated in the Schedules, and allowing the railway allowances with compound interest at 5 % as a set off	$126,876 64
Add amount payable by Perth to St. Mary's for its proportion of railway allowance	11,881 00
Total payable by Perth as claimed by Government	$138,757 64

By Mode No. 2:

The railway allowance is deducted as a payment from the original amount of debt, leaving it	$214,888 00
on which interest has been calculated, and the credits from time to time given, as would be the case if the account were taken by the Court of Chancery, and on which no interest was computed upon any balance which might be due for interest.	
This mode shows the following amount due in respect of interest so calculated	10,261 00
Add amount of debt	214,888 00
	$225,149 00
Deduct population allowance	86,832 00
Amount payable by Perth	$138,317 00

Perth pays nothing to St. Mary's.

By Mode No. 3:

The interest is calculated on the debt reduced by the railway allowance, giving credit for payments according to the usual mode adopted by the Court of Chancery, but charging interest on balances at debit of interest as well as on credit-balances.	
Amount so found due by county for interest	$13,657 37
Principal debt against county	214,888 00
Total	$228,445 37
Deduct population allowance	86,832 00
Payable by county	$141,713 37

Mode No. 3 is the strictly correct legal mode if we take your interpretation of the effect of the Resolutions; and under section 93 Consolidated Act of Canada, 22 Vic., cap. 83, your county is chargeable with interest on interest-balances.

The result, then, is to make your debt $2,955 73 larger than the amount you are called upon to pay under Mode No. 1, which is that according to which the calculations in regard to all municipalities have been made. The difference then being against you, we have come to the conclusion to adhere to the mode originally adopted.

The calculations have been made by the Clerk in the office of the Master in Chancery, in order to prevent a possible error.

Your council will therefore, I hope, acquiesce in the statement of the debt which shows the amount payable by the county to be $138,757 64.

I have the honour to be, Sir

Your obedient servant,

(Signed) Adam Crooks,

Treasurer.

J. Campbell, Esq.,
Clerk, County Council, Perth,
Stratford.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Peterborough, exclusive of the Town of Peterborough, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $49,434 00, being two dollars per head of the population, according to the census of 1871.

This sum of $49,434 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Peterborough other than the Municipality excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local municipalities passed after the first day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipality excepted above, is excluded from sharing in the above allowance, because it has been separately dealt with by the Government.

We remain,

Your obedient servants,

W. Cayley,

Auditor,

C. A. Brough,

Acting-Secretary.

To Treasurer Co. of Peterborough.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the Counties of Prescott and Russell, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $52,686 00, being two dollars per head of the population, according to the census of 1871.

This sum of $52,686 00, is to be divided by the Government among the towns, townships, and incorporated villages in the Counties of Prescott and Russell, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the first day of February next, in accordance with the thirteenth section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

We remain,
Your obedient servants,
(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To the Treasurer, Counties of Prescott and Russell.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the municipalities in the County of Prince Edward, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $40,672 00, being two dollars per head of the population, according to the census of 1871.

This sum of $40,672 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Prince Edward, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To the Treasurer, County of Prince Edward.

AUDITOR'S OFFICE,
TORONTO, 4th July, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the District of Parry Sound, on the 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $3,038 00, being an allowance of two dollars per head of the population according, to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the District, under the said Act, it should be brought under our notice within fourteen days of this date.

The sum of $3,038 00 is to be paid over for such purposes pointed out in the 13th Section of the said Act, as may be provided for by by-laws of the Local Municipality, passed after the 1st day of February next, in accordance with the 13th Section of said Act.

We remain,
Your obedient servants,
(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To R. McCurry, Esq.,
Stipendiary Magistrate, Parry Sound.

AUDITOR'S OFFICE,
TORONTO, 21st June, 1873.

SIR,—We the undersigned have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Town of Paris on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $35,690 11.

The following is a statement of the mode by which that sum was arrived at:—

Railway allowances granted to the municipality in respect of aid to the Buffalo and Lake Huron Railway as of 1st Jan., 1873	$40,396 95	
Interest thereon from 1st Jan., 1873, to 1st Feb., 1874	2,188 16	
		$42,585 11
Amount of Clergy Reserve money retained by the Government 1st Jan., 1873	521 17	
Interest thereon from 1st Jan., 1873, to 1st Feb., 1874	33 67	
		555 44
Allowance of $2 per head of population, census of 1871, payable 1st February 1874		5,280 00
		$48,520 55
Less balance of debt to Municipal Loan Fund, 1st January 1873	$12 171 17	
Interest thereon from 1st Jan., 1873 to 1st Feb., 1874	659 27	
		$12,830 44
		$35,690 11

This sum of $35,690 11 is to be paid over for such purposes, pointed out in the 12th section of the Municipal Loan Fund Act, as may be provided for by by-law passed after the 1st February next, in accordance with the 13th section of the said Act.

Should there appear to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor,
(Signed) C. A. BROUGH,
Act.-Secretary.

Treasurer of Paris, Ontario.

PARIS, ONTARIO, 14th July, 1873.

DEAR SIR,—I take the liberty of asking for information respecting the Municipal Loan Fund settlement, about which there are wide differences of opinion here. If not contrary to rule, would you kindly state whether the amount specified as apportioned to Paris will be paid in cash to the Town Treasurer in February, 1874, and if not, under what conditions will the money be paid, and how will such payment be regulated.

There seems to be an idea prevalent here that Government will place the money to the credit of the municipalities, and only pay it out as the by-laws for expending the same are submitted to the Governor in Council, and approved.

I would say in explanation that for nine years up to last October, I was editor and proprietor of the Galt *Reformer*, and am now engaged in erecting a manufacturing establishment in Paris.

I am
Yours respectfully,
(Signed) JOHN ALLEN.

The Honourable O. Mowat,
Attorney-General, Toronto,

AUDITOR'S OFFICE,
TORONTO, ONT., July 23rd.

DEAR SIR,—In reply to your letter of the 14th instant, to the Honourable the Attorney-General, enquiring as to the mode in which the sum credited to the Town of Paris under the Municipal Loan Fund Act will be paid over, I am directed to say, that this sum will not be paid in cash to the Town Treasurer on 1st February, 1874.

That the sum may be paid at any time after the 1st February, 1874, under the proper regulations pointed out in the Municipal Loan Fund Act, (36 Vict. c. 47,) and fitted to secure its due application to the objects specified in the Act.

That for such time as the sum with which the Town is credited, may remain in the hands of the Treasurer of Ontario after the 1st February, 1874, interest will be allowed.

That the sum may be paid in cash, but that possibly a portion of it may be paid in the debentures of certain municipalities indebted to the Municipal Loan Fund, which debentures will be delivered according to their market value at the time of delivery.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.

To John Allen, Esq.,
Paris.

PARIS, July 30th, 1873.

SIR,—The municipality of Paris has been labouring under a heavy load of taxation for some years past, and the Bill you introduced will be a great relief to us.

We have a debenture for $2,500 00, and interest, $600 00, due this year, and we are very desirous of having the assessment permanently law, and at once. I write to learn if the Government will consent to our leaving it over until after February, 1874, provided the assent of the holder of the debenture is obtained.

The other debenture debt amounts to $7,500 00, principal due in '74, '75, '76.

We are of opinion that if consent is given to this, our people will be somewhat eased this year, and that it will place us in a position to seek for capital to come in for manufacturing purposes.

An early reply will oblige, so as to allow the Finance Committee to report.

Yours respectfully,
(Signed) CHAS. WHITLAW,
Mayor.

To the Honourable Oliver Mowat,
Attorney General, Toronto.

AUDITOR'S OFFICE,
TORONTO, ONT., 5th August, 1873.

SIR,—In reply to your letter of 30th ultimo, repeating the postponement of the payment of a certain debenture for $2,500 00, given by the Town of Paris, I am instructed to say, that as the government does not hold any such debenture, it will be necessary to furnish further particulars, and to state the reasons why the Government is asked to interfere in the matter.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.

To Charles Whitlaw, Esq.,
Mayor, Town of Paris.

(Duplicate.)

TORONTO, June 28th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Peel, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $15,783 31.

Of this sum, $4,295 31 are for an allowance in respect of the Wellington, Grey and Bruce Railway.

The remainder of the sum to be paid to the municipality, amounting to $11,488 00 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants.
(Signed) W. Cayley, *Auditor.*
(Signed) C. A. Brough.
Act.-Secretary.

Clerk, Township of Peel.

Note.—For change in amount of allowance going to Peel in respect of Wellington, Grey and Bruce Railway, see circular under Elora correspondence.

Auditor's Office,
Toronto, 6th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Town of Peterborough to the Government, under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find the debt of the Town of Peterborough by the operation of the 5 cent rule under the 3rd resolution, to be reduced to $72,430 46.

The indebtedness of the Town of Peterborough to the Municipal Loan Fund, without the intervention of the rule referred to above, and after being credited with its railway, population and Clergy Reserve allowance would have stood at $100,898 12. The Town is consequently benefitted by the application of the 5 cent. rule to the extent of $28,467 66.

If you have any suggestions or objections to make with reference to the foregoing calculations, you are to make them within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act of last Session, we beg to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) William Cayley,
Auditor.
(Signed) C. A. Brough,
Acting Secretary.

To James Edwards, Esq., Treasurer,
Town of Peterborough.

Town Treasurer's Office,
Peterborough, 9th July, 1873.

Gentlemen,—In reference to your letter of the 6th ultimo, stating that the sum due and to be paid by the Town of Peterborough to the Province, under the Municipal Loan Fund Resolutions of the 26th March last, by the operation of the five cent rule, was reduced to $72,430 46, and further, that if we had any suggestions to make or objections to offer, we were to do so before the expiration of fourteen days from the above date. I beg leave to reply as follows :—

The letter was duly submitted to the Town Council, and I was directed to state, that as it regards the calculations or the method adopted in producing the amount said to be due, we are in ignorance, but if furnished with a key, we might then be prepared to assent or otherwise, with your statement.

In the absence of other information, it is curious to observe that the Town of Port Hope, which borrowed $860,000 from the Municipal Loan Fund, paying but $150,182, and Cobourg which borrowed $600,000 paying but $69,580, while Peterborough which borrowed but $100,000, yet, paying $72,430, and that too, whilst our payment of 5 cents in the dollar, have been regular since 1859 to 1870. It has been said that both Towns have been delinquents in their payments.

As it regards our amount, we suppose it is correct, and our Town Council are anxious to have the matter arranged, so that all parties may be satisfied.

You are probable aware that application has been made to the Government by our local member, Mr. Fairbairn, to accept the security we hold from the Midland Railway, as so much of the debt due by the Town.

The amount owing by the railway now is $66,800, bearing interest at six per cent., for the payment of which we hold Mr. Covert's bond.

Mr. Hugel the present President of the Midland Railway Company, has signified his willingness to the transfer being made.

It is the desire of the Town Council (if the Government give its consent) to have the matter closed at once. The balance found to be due by the Town, will be paid in cash. Awaiting further intelligence,

I have the honour to be, Gentlemen,
Your obedient servant,
(Signed) J. Edwards,
Treasurer of the Town of Peterborough

Messrs. Cayley and Brough, &c., &c.
Toronto.

Auditor's Office,
Toronto, July 12th, 1873.

Sir.—I beg to acknowledge the receipt of your letter of the 9th instant, asking for an explanation as to the mode in which the Municipal Loan Fund debt of the Town of Peterborough has been calculated.

I now enclose you a copy of the Municipal Loan Fund Resolutions, under the third paragraph of which your debt was calculated.

The mode in which the amount was practically arrived at was, by capitalizing at 5 per cent. the sum to which 5 cents in the dollar under the assessed annual value of the property in Peterborough in 1858 amounted to, this was the amount of the debt on 1st December, 1859, and in order to ascertain the debt on 1st January, 1873, the balance of interest accruing on the new capital since 1859, after deducting the payments made since that date, was added to the amount of the debt as it stood on 1st December, 1859.

With reference to the debt of Port Hope and Cobourg, to which you refer, I am instructed to say, that the principle on which the debt of every municipality to the Municipal Loan Fund has been fixed, has been the ability of such municipality to pay.

That the debt of Port Hope has been determined in a manner similar to that in which the debt of Peterborough was ascertained, five cents in the dollar on the assessed annual value in 1858 being taken as the basis of the calculation.

With reference to Cobourg, in order to pay its debt, it is taxed to the extent of two cents in the dollar on the actual assessed value of its property, exclusive of school rates, the debt being ascertained by capitalizing at 5 per cent. the balance of two cents in the dollar on the actual assessed value of its property, after deducting therefrom expenses, exclusive of school rates.

As the security held from the Midland Railway is of less amount than the debt of the town, there is no power under the Municipal Loan Fund Act to accept it in discharge of a portion of the debt of the town, but it may be taken as a material security for the debt, and I am instructed to ask you, to send the particulars of the security held by the town, at your earliest convenience.

I remain,
Your obedient servant,
(Signed) C. A. Brough.

To J. Edwards, Esq., Treasurer,
Town of Peterborough.

PORT ELGIN, June 27th, 1873.

DEAR SIR,—Port Elgin has been incorporated a few days since, under the Statute of last Session of the Provincial Parliament. Do we, the new municipality, draw our share out of the Municipal Loan Fund distribution scheme, in proporti n to our population, as a new and separate municipality?

Our Municipality will have its officers for the first time, elected next January.

Yours respectfully,
(Signed) A. C. SINCLAIR.

The Honourable the Attorney-General,
&c. &c., Toronto.

AUDITOR'S OFFICE,
TORONTO, July 7th, 1873.

DEAR SIR,—In reply to your letter of 27th ultimo, to the Honourable the Attorney-General, I am instructed to inform you, that Port Elgin will be dealt with as a separate municipality from the Township of Saugeen, and that it will receive a portion of the amount to be distributed amongst the Municipalities in the County of Bruce, proportionate to its population at the time of taking the census in 1871. It will, therefore, be necessary for the authorities of the village to transmit to the Government a statement of the population when the census of 1871 was taken, showing the means by which they arrived at their conclusion, and the evidence upon which they acted.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH,
Acting-Secretary.

A. C. Sinclair, Esq., M.D.,
Port Elgin, Ont.

AUDITOR'S OFFICE,
TORONTO, June 28th, 1873.

DEAR SIR,—I was out of town when your telegram was sent, and I did not receive it until Saturday. The Attorney General has instructed me to ask you to send all evidence that you can, as to the share of the county debt paid by the Town of Port Hope prior to separation, including statements from yourself and Lieutenant-Colonel Williams, if possible. As soon as this evidence has been received, a formal notification of the amount to be paid will be given.

I remain,
Yours truly,
(Signed) C. A. BROUGH,
Acting-Secretary.

To J. Wright, Esq., Mayor, &c.,
Port Hope.

AUDITOR'S OFFICE,
TORONTO, July 10th, 1873.

DEAR SIR,—The certificates as to the amount of Port Hope's contributions to the county debt to the Municipal Loan Fund, have been received, and appear to be satisfactory.

A formal notification of the amount to be paid by Port Hope, as of 1st January last, $92,518 73, has been sent to-day to the Treasurer of the Town.

I remain,
Yours very truly,
(Signed) C. A. BROUGH,
Acting-Secretary.

To J. Wright, Esq., Mayor,
Town of Port Hope.

AUDITOR'S OFFICE,
TORONTO, July 10th, 1873.

SIR,—We, the undersigned, are instructed by the Government to inform you, that we have calculated the sum to be paid by the Town of Port Hope under the Municipal Loan Fund Act, and that the same amounts to $92,518 73, as of 1st January, 1873.

Should there appear to be any errors in the amount stated to be due by the town, you are to bring the same to our notice within fourteen days from this date.

We also call your attention to the 6th section of the said Act, which provides for the payment of interest on the debt, subsequently to 1st January, 1873.

With reference to the debentures to be given by the Town of Port Hope under the said Act, we are instructed to say that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor,
(Signed) C. A. BROUGH,
Acting-Secretary.

To G. M. Healy, Esq., Treasurer,
Port Hope.

To His Excellency The Honourable William Pearce Howland, C.B., Lieutenant-Governor of the Province of Ontario, in Council.

The Petition of the Corporation of the Village of Preston, in the County of Waterloo,

Humbly Sheweth :—

That your Petitioners being shareholders in the *Galt and Guelph Railway,* highly appreciate the liberality evinced by the House of Assembly for the Province of Ontario at its recent session, in granting aid at the rate of $2,000 00 per mile, to those municipalities that took stock in the Galt and Guelph Railway.

That the share which each of said municipalities is to receive out of such aid, shall be in proportion to the amount of the contributions of such municipality towards the construction of such railway and that *interest shall be allowed thereon from the day of the debt therefor, being contracted.*

That schedules B and C shall be subject to any error which may be found therein, being corrected by authority of your Excellency in Council, as respects the sums to be received or paid.

That according to schedule C, the proportion of railway allowance interest is calculated from the 11th September, 1855, being the day of the date when the Town of Guelph borrowed $80,000 from the Municipal Loan Fund.

That the dates, on which the several municipalities subscribed stock in the Galt and Guelph Railway, and issued debentures therefor, are as follow :—

Town of Guelph in Dec. 1853, $40,000, in Sept. 1855.....	$30,000
Total.....	$70,000
Village of Preston, in December, 1853	40,000
Township of Guelph, in December, 1853.....	20,000
City of Hamilton, in December, 1853	40,000
Total Stock taken	$170,000

Showing that $140,000 were subscribed in December, 1853, and only $30,000, 11th September, 1855.

That an error appears in the date from which the railway allowance interest has been calculated, inasmuch as that date has uniformly been taken as the 11th September, 1855,

while only $30,000 out of the $170,000 stock were subscribed on the 11th September, 1855, but $140 000 of the same in December, 1853.

Your petitioners therefore pray Your Excellency in Council, to take this matter into your favourable consideration, *and cause said error to be corrected*, by allowing your petitioners interest from the date the stock was taken, as above stated.

And your Petitioners will ever pray,

(Signed) Abram A. Erb,
Reeve.

(Signed) William A. Husband,
Clerk.

(Preston Corporation Seal.)

Dated at Preston, 5th May, 1873.

Auditor's Office,
Toronto, June 11th, 1873.

Dear Sir,—I referred the question as to the amount to be paid to the Town of Preston, under the Municipal Loan Fund Resolution, to the Honourable the Attorney-General, and he has instructed me to say, that the error in the schedules, as to the time from which interest on the railway allowance should be calculated, will be corrected ; and that interest will be allowed from 29th December, 1853, instead of from the 11th September, 1855.

As to the question whether you should receive interest at 6 per cent. instead of at 5 per cent. on a portion of your railway allowance proportionate to that part of your debentures held by Guelph, and on which you have been paying 6 per cent. to that town, the Attorney-General says that he is unable to see how such an allowance could be justified under the resolutions, and if six per cent. were allowed to you in the manner you ask, similar allowances would have to be made to all other places which advanced money to aid in the construction of railways, from their own resources, without borrowing from the Municipal Loan Fund ; as for example: the County of Middlesex, the Township of Oxford, St. Thomas, Kemptville, &c., which places have, it is believed, in some cases paid even more than 6 per cent. on the money received by the sale of their debentures, owing to the fact that they were sold below par. The allowance of six per cent., in any of these cases, would be contrary to the intentions of the Resolutions. The cases of Hamilton and Berlin were entirely exceptional, and were especially provided for in the 11th paragraph of the Resolutions. The Government held bonds of Hamilton which were given to aid the Berlin and Preston Railway ; on these bonds there were large arrears of interest at 6 per cent. ; and it was thought proper to cancel these bonds, and the past due interest coupons, and to make a proportionate allowance to Berlin (viz., at 6 per cent.) in consideration of the circumstances, that the object for which these places advanced their money, namely, railway communication, was defeated by legislation—the Berlin and Preston Railway, to which they had contributed, having been destroyed under authority conferred by an Act of the Parliament of the late Province of Canada, 27 Vict., cap. 56.

These municipalities, therefore, get nothing for their money, which was considered a reason for dealing with them more liberally than was called for in the case of any of those municipalities which got their railway.

I remain,
Yours very truly,
C. A. Brough,
Act. Secretary.

To S. Clements, Esq., M.P.P.
Preston.

Auditor's Office,
Toronto, July 12th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Village of Preston, under the Municipal Loan Fund Act, on 1st February, 1874, and that the same amounts to $22,254 00.

Of this sum, $19,138 are for an allowance in respect of Galt and Guelph Railway, and the balance, amounting to $2,816, is an allowance at the rate of $2 per head of the population according to the census of 1871.

The sum of $22,254, payable by the Province to the Village of Preston, is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the local municipality, passed after 1st February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the calculation of the amount to be paid to the Village of Preston, you are to bring the same under our notice within fourteen days of this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Act.-Secretary.

To William Husband, Esq.,
Treasurer, Village of Preston.

AUDITOR'S OFFICE,
TORONTO, 6th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the United Counties of Lanark and Renfrew to the Province under the amended Municipal Loan Fund Resolutions of 26th March last, and that we find the debt of the United Counties by the operation of the five cent rule under the Third Resolution, to be reduced to $322,069 93.

The indebtedness of the United Counties to the Municipal Loan Fund, without the intervention of the five cent rule referred to above, and after crediting them with their railway and population allowances, would have stood at $1,182,857 23. The counties are consequently benefitted to the extent of $860,787 30, by the application of the five cent rule.

If you have any suggestions or objection to make with reference to the foregoing calculations, you are to make the same within fourteen days from this date.

With reference to the Debentures to be given under the Municipal Loan Fund Act of last session, we beg to say, that a form will be prescribed by His Excellency, the Lieutenant-Governor in Council.

We remain,
Your obedient servants,
(Signed) WM CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

To Andrew Irving, Esq.,
Treasurer, County of Renfrew, Pembroke.

AUDITOR'S OFFICE,
TORONTO, 9th June, 1873.

SIR, — I have been instructed by the Honourable the Attorney-General to inform you, that the communication from the Government of the 6th inst., as to the indebtedness of the Counties of Lanark and Renfrew under the Municipal Loan Fund Resolution, was made independently of the consideration of the proposal on behalf of the Canada Central Railway; and that the determination of the Government as to that proposal will be communicated to you probably in the course of the next few days.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH,
Acting Secretary.

To Andrew Irving, Esq.,
Treasurer, County Renfrew, Pembroke.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Simcoe, exclusive of Barrie and Mono, on 1st February 1874, according to the provisions of the unicipal Loan Fund Act, and that the same amounts to $113,738 00 being two dollars per head of the population, according to the census of 1871.

This sum of $113,738 00 is to be divided by the Government, amongst the new townships, and incorporated villages in the County of Simcoe, other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolutions; and is to be paid over for such purposes pointed out in the 1 th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excluded above, are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,

Your obedient servants,

(Signed) W Cayley, *Auditor*,

(Signed) C. A. Brough,
Act.-Secretary.

To Treasurer, Co. of Simcoe.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the Counties of Stormont, Dundas and Glengarry, exclusive of the Town of Cornwall, on 1st of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $112,510, being two dollars per head of the population, according to the census of 1871.

This sum of $112 510, is to be divided by the Government among the towns, townships, and incorporated villages in the Counties of Stormont, Dundas, and Glengarry, other than the municipality excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by laws of the local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipality excepted above have been excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,

Your obedient servants,

(Signed) W. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

To the Treasurer, Counties of
Stormont, Dundas and Glengarry.

Toronto, June 21st, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the township of Scarborough, on 1st of February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $10 316 69, of this sum, $1,086 69, are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $9,230, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement as to the amount going to the Municipality under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

J. Crawford, Esq., Clerk,
Township Scarborough, Malvern.

Toronto, June 21st, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the township of Scott, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $6,636 69, of this sum, $1,086 69, are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $5,550 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

W. Nelson, jun., Esq., Clerk,
Township Scott, Sandford.

Toronto, June 21st, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the township of Somerville, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $3,778 03, of this sum, $1,630 03 are for an allowance in respect of the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $2,148, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. Cayley,
Auditor.
(Signed) C. A. Brough,
Acting-Secretary.

T. Howe, Esq., Clerk,
Township Somerville, Bury's Green.

AUDITOR'S OFFICE,
Toronto, 20th June, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Stanley, on the 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $14,949 73.

The following is the statement of the mode in which that sum was arrived at:—

Railway allowance granted to the municipality in respect of its aid to the Buffalo and Lake Huron Railway, as of the 1st January, 1873	$10,232 76	
Interest thereon from 1st Jan., 1873, to 1st Feb., 1874	554 27	
		$10,787 03
Allowance of $2 per head of population, census 1871, payable 1st February, 1874		7,608 00
		$18,395 03
Less balance of debt to Municipal Loan Fund, 1st January, 1873	$3,268 27	
Interest thereon, from January, 1873, to February, 1874	177 03	
		3,445 30
		$14,949 73

Should there appear to you to be any error in the above valuation, it should be brought to our attention within fifteen days from this date.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

To Robert Reid, Esq.,
Treasurer, Township of Stanley.

TOWNSHIP CLERK'S OFFICE,
STANLEY, 26th June, 1873.

SIR,—Replying to your favour of the 10th instant, addressed to Mr. Robert Reid, Treasurer, I am instructed to state, that the money borrowed for harbour improvements from the Municipal Loan Fund by the township is as much a public matter as the money borrowed for railroad or other purpose; yet no mention is made of it, save a charge for a balance alleged to be due, which sum, we think, is in excess of the debt.

Is not the Township of Stanley entitled to a *pro rata* share of the money allotted to the County of Huron, over and above allowance for harbour loan, seeing that this township always paid its full share of county taxation, in addition to its individual liabilities?

I have the honour to be,
Sir,
Your obedient servant,
(Signed) WILLIAM PLUNKETT
Clerk, Bayfield, P.O.

To the Honourable Wm. Cayley,
Provincial Auditor, Toronto.

AUDITOR'S OFFICE,
TORONTO, July 7th, 1873.

SIR,—In reply to your letter of the twenty-sixth ultimo, I beg to say that the railway allowance of $10,787 03, with which the Township of Stanley was credited on its debt to the Municipal Loan Fund, was its share of the allowance made to the County of Huron in respect of the Buffalo and Lake Huron Railway

With reference to your suggestions as to an allowance being being made in respect of the money expended by the Township of Stanley, upon harbour improvements, I have been instructed to state, that certain railway enterprises are the only public works in respect of which special allowances have been made under the Municipal Loan Fund Resolutions, and these special allowances were made in order to further what has been the policy of the Government for many years.

I remain,
Your obedient servant,
(Signed) W. Cayley,
Auditor.

William Plunkett, Esq.,
Clerk, Township of Stanley, Bayfield.

Auditor's Office,
Toronto, 18th June, 1873.

Sir, Be pleased to state, for the information of the Honourable Attorney-General, the total rate at which the Town of Stratford was assessed for the year 1872.

Also, giving the rates severally for the several services, such as Common School Rates, separate ditto, ordinary purposes.

I remain,
Your obedient servant,
(Signed) Wm. Cayley,
Auditor.

G. W. Lawrence, Esq.,
Treasurer, Stratford.

Treasurer's Office,
Stratford, 19th June, 1873.

Sir,—In reply to your favour of the 18th instant, I beg to state that the total assessment of Stratford for 1872, was $1,069,555 00 of which, property valued at $970,860 00 contributed to the support of Common Schools, which last named sum was rated at four mills in the dollar for Common School purposes.

The residue of the property of the Town, valued at $98,695 00, contributed to the support of Separate Schools, and was rated at seven and one-tenth mills in the dollar for Separate School purposes.

The whole assessment of the Town, $1,069,555 00, was rated for ordinary purposes at fourteen and one-fourth mills in the dollar.

The $970,860 00 above mentioned was rated for all purposes at eighteen and one-fourth mills in the dollar; and the $98,695 00 was rated at twenty-one and seven-twentieths mills in the dollar for all purposes.

The amount raised for ordinary purposes in 1872, was $15,241 16; for common School purposes, $3,833 44; and for Separate School purposes, $700 00.

The Finance Committee are anxious to know the amount at which the Town debt is fixed, before the 30th inst.

I shall be most happy to give you any information in my power.

I am,
Yours respectfully,
G. W. Lawrence,
Treas. Town of Stratford

To Hon. Wm. Cayley.
Auditor, Toronto.

Auditor's Office,
Toronto, June 27th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum of money to be paid by the Town of Stratford to the Province, under the Amended Municipal Loan Fund Resolutions of 26th March last, and that the same amounts to $53,408 26, as of 1st January, 1873.

We also call your attention to the liability of the Town to pay interest on its debt (as reduced) from 1st January last, in accordance with the 6th section of the Municipal Loan Fund Act.

If you have any objections to make with reference to the calculations of the amount to be paid by the Town on the basis of the Resolutions, you are to make the same known to us within fourteen days from this date.

With reference to the debentures to be given under the 6th section of the Municipal Loan Fund Act, we are instructed to state that a form will be prescribed by His Excellency the Lieutenant-Governor in Council.

We remain,

Your obedient servants,

WM. CAYLEY,
Auditor.

C. A. BROUGH,
Act.-Secretary.

G. W. Lawrence, Esq.,
Treasurer, Town of Stratford.

AUDITOR'S OFFICE,
TORONTO, 9th July, 1873.

DEAR SIR, — I received your letter from Mr. MacGregor, and explained to him the mode in which the debt of Stratford had been calculated,

I have, however, thought it better to write to you to answer the questions contained in your letter, as I unfortunately did not meet you when in town.

You ask me to explain how the debt has been fixed at $53,000 00, and suggest that the payment by the Town in the County debt should be taken into consideration in determining the local debt, according to the principle established in the Township of Hope. And you also ask why I stated, when I saw you last month, that the debt would not exceed $53,000 00, and might perhaps be reduced to $37,000 00.

As to the first question, the debt of Stratford has been calculated according to the five cent. rule, as modified by the principle established in the case of the Township of Hope

Five cents in the dollar on the assessed annual value of property in Stratford, according to the assessment of 1858, amounts to $2,945 15, which capitalized at five per cent. makes $58,903 00, which sum would represent the local debt of Stratford in December, 1859, according to the five cent rule, independently of the considerations of the County debt.

But, since 1859, Stratford has made payments on the County debt, averaging $603 02 annually.

These average annual payments capitalized at 5 per cent., amount to $12,060 40, which according to the principle established in the case of the Township of Hope, must be taken from the $58,903 as representing the value on 1st December, 1859, if the payments which have been made by Stratford in the County debt, and which will have to be so made in the future.

On deducting the $12,060 40 from the $58,903, there remains a balance of $46,843 60, say $46,843, being the amount due by Stratford on its local debt, as of 1st December, 1859. To find the debt on 1st January, 1873, the excess of the interest accrued due since 1st December, 1859, over the payments made since that time, must be added to the capital as it stood in 1859, this excess amounts to $6,565 26, making the sum to be paid by Stratford, under the Municipal Loan Fund Act, as of 1st January last, $53,408 26.

As to the second question. The reason why I said that the debts would not exceed the $53,000, and might perhaps be reduced to $37,000 was, because I knew that the debt would be affected either by the five cent rule or the two cent rule, whichever would reduce it to the smaller amount.

By the five cent. rule it would stand at the sum of $53 000, therefore the debt would be greater than that sum. And by the two cent. rule, assuming that the statement of the assessed value of property and the rate for 1872 which we had in our possession, were correct, the debt would be reduced to the $37,000.

The assessed value as returned by the Treasurer in the first instance, and printed in the schedules was $1,078,085 and the rate 18½ mills in the dollar; taking these figures to be true,

there would have been 1¾ mills in the dollar on the $1,078,085, to be applied annually;—on the debt according to the two cent rule this would have amounted to $1,886 64, which capitalized at 5 per cent. would have amounted to $37,732 80, the sum which I mentioned to you as being the amount to which the debt perhaps might be reduced.

The amount of the reduction however was so great that it was thought advisable to get some further evidence as to the correctness of the printed figures, and a letter was written to the Treasurer of the Town asking for the required information; and he in his reply stated that the value of the property for 1872 was $1,069,555, and the rate for all ordinary purposes exclusive of school rates, 14¼ mills in the dollar, leaving 5¾ mills in the dollar to be applied on the debt, which would therefore have amounted to $122,998 80, a greater sum than that at which it stood by the five cent rule.

Referring again to the debt as, it now stands I may mention that Mr. MacGregor urged that some allowance should be made on account of future payments by Stratford on the County debt.

From the statement already given, you will see that Stratford was allowed a capital sum of $12,060 40, as of 1st December, 1859, as its share of the County debt, the interest on which covers the payment made to the County in the past, and which sum is considerably in excess of the share of the County debt as reduced, which will have to be paid by Stratford.

As to Stratford being obliged in making its payments on both its Local and County debts, to pay more than 5 cents in the dollar on the annual value of its property, I may mention that under the statute 22 Victoria, cap. 15, according to its legal construction, when a local municipality owed a local Municipal Loan Fund debt, and was also obliged to contribute towards the Municipal Loan Fund debt of the County in which it was situate, such local municipality was liable to contribute to the extent of 5 cents in the dollar in respect of each debt. The reduction permitted in the case of the Township of Hope by the Government of Canada, and sanctioned for some purposes by the Municipal Loan Fund Act of last session, not being one of right; but indulgence, and this last Act requires the annual payment by a municipality to be of the annual sum which the municipality is, independently of the Act, liable, that is, legally liable to pay:—it will be necessary for Stratford to make full payment in both its local and County debts, even though such payment may exceed 5 cents in the dollar on the assessed annual value.

I have to-day written to Mr. McGregor, explaining the mode in which the debt was fixed at $53,408 26, as he asked me to do so.

I remain,
Yours very truly,
(Signed) C. A. Brough.

To A. Monteith, Esq., M.P.P.,
Stratford.

Auditor's Office,
Toronto, 9th July, 1873.

Dear Sir,—As requested by you, I now write to explain the mode in which the debt of Stratford to the Municipal Loan Fund has been calulated.

The debt has been determined by the five cent rule, as modified by the principle established in the case of the Township of Hope.

Five cents in the dollar on the assessed annual value of property in Stratford, according to the assessment of 1858, amounts to $2,914 15 which, capitalized at 5 per cent., makes $58,903, which sum would represent the local debt of Stratford, on 1st December, 1859, according to the 5 cent rule, independently of any consideration of the County debt. But since 1859, Stratford has made payments on the County Debt, averaging $603 02 annually.

These average annual payments, capitalized at 5per cent., amount to $12,060 40, which, according to the principle established in the case of the Township of Hope, must be taken from the $58,903 as representing the value on 1st December, 1859, and the payments which have been made by Stratford to the County since 1859, which will have to be made in the future.

On deducting $12,060 40 from $58,903, there remains a balance of $16,843 60, say $46,843, being the amount due by Stratford on its local debt, on 1st December, 1859.

To find the amount of the debt on 1st January, 1873, the excess of the interest, accrued

due since 1st December, 1059, over the payments made since that date, must be added to the capital as it stood in 1859; this excess amounts to $6,565 26, making the sum to be paid by Stratford, under the Municipal Loan Fund Act, as of 1st January, 1873, $53,408 26.

From the above statement you will see that Stratford was allowed a capital sum of $12,060 40, as of 1st December, 1859, as its share of the County debt, the interest on which covers the payment made on the County debt in the past, and which sum is considerably in excess of the share of the County debt for which Stratford will hereafter be liable.

If I can be of any assistance in explaining any other matter connected with the town debt, I shall be most happy to do so.

I remain,
Yours very truly,
C. A. Brough.

C. J. Macgregor, Esq.,
Chairman of Finance Committee,
Stratford.

Stratford, July 12th, 1873.

Dear Sir,—Your favour of the 9th reached me yesterday for which accept my thanks.

The only portion of your statement to which I object is the excess of arrears of accrued interest over payments made since December 1st, 1859. These you state in your letter to be $6,5 5 26, and in the memo. you gave me when in Toronto, $6,525 26. My calculation, as you will see per statement sent herewith, makes the excess to be $2,502 19, and consequently the debt as of January 1st, 1873, should be reduced to $49,385 19.

Might I trouble you to look over my statement, and consider whether you should not adopt that amount as the debt of Stratford.

I remain,
Yours very truly,
C. J. Macgregor.

C. A. Brough, Esq.,
&c. &c. &c.
Toronto.

TOWN OF STRATFORD in account with the Municipal Loan Fund.

DR. CR.

Date.		Amount.	Date of Payments.	Payments.	Time from date of Payments to 1st January, 1873.	Amt. of payments at 5 per. cent. compound interest, to 1st Jan., 1873.
		$ cts.		$ cts.		$ cts.
st December, 1859	To amount of Debt as reduced by 5 ct. rule 858,943 00		1859—Dec. 28th.	2,947 15	13 years.	5,557 29
	Deduct capital sum allowed on account of payment to the County Debt 12,060 00		1861—Jan. 12th.	2,947 15	11 " 353 days	5,292 66
			1863—Feb. 10th.	2,000 00	9 " 324 "	3,242 28
			1863—March 23rd.	1,123 98	9 " 283 "	1,811 29
			1864—Jan. 14th.	2,947 15	8 " 351 "	4,572 00
			1865—July 11th.	1,000 00	7 " 174 "	1,410 51
	To reduce debt as on December 1st, 1859....	46,883 00	1866—Feb. 23rd.	1,770 32	6 " 311 "	2,474 87
			1866—Feb. 28th.	1,500 00	6 " 306 "	2,097 15
	Compound interest on reduced debt from December 1st, 1859, to January 1st, 1873, at 5 per cent. per annum, 13¼ years.	41,890 28	1867—Jan. 7.....	4,464 64	6 " 0 "	5,983 06
			1868—May 26th. .	1,000 00	4 " 220 " ...	1,252 14
			1869—Feb. 17th. .	2,000 00	3 " 317 " .	2,415 78
			1870—Dec. 28th....	2,947 00	2 " 0 "	3,249 06
						39,388 09
			1873—Jan. 1st.....	By amount due Municipal Loan Fund.	. . . . .	49,385 19
		88,773 28				88,773 28

The above shows that the sum to be paid by Stratford, under the Municipal Loan Fund Act, as of 1st January, 1873, is $49,385 19.

STRATFORD, July 11th, 1873.

AUDITOR'S OFFICE.
TORONTO, July 29th, 1873.

DEAR SIR,—I beg to acknowledge the receipt of your letter of the 12th instant, relating to the debt of Stratford; I have looked into your calculations, and find that Stratford has been credited by us on account of payments made, with a few dollars more than by yourself, but I find that you have not charged so much on account of interest accrued due, as we have. I think the difference in our calculations arises from your not having made any interest payable until December, 1860, whereas, by the Act of 1859, a five per cent. payment should have been made in December, 1859, and we have charged Stratford with the balance of the five cent payment falling due in 1859, after deducting its contribution towards the county debt for that year. Please let me know at once, whether I am right in my supposition as to the cause of the difference in our calculations.

I remain,
Yours very truly,
(Signed) C. A. BROUGH.
Acting-Secretary.

To C. J. MacGregor, Esq.,
Chairman, Finance Committe, Stratford.

AUDITOR'S OFFICE.
TORONTO, August 8th, 1873.

DEAR SIR,—In reply to your letter of 31st ultimo, respecting the Municipal Loan Fund Debt of the Town of Stratford, I beg to say that the Honourable the Attorney-General has been for some days absent from town, attending the Ontario and Quebec arbitration, but that upon his return, I shall submit your letter to him for consideration.

I remain,
Yours very truly.
(Signed) C. A. BROUGH.
Acting-Secretary.

C. J. MacGregor, Esq.,
&c., &c., Stratford.

TORONTO, AUDITOR'S OFFICE.
17 September, 1873.

SIR,—I am instructed to say that the Town of Stratford is allowed a credit on its local debt, of $220 88 as of 27th July, 1859, the date on which such sum was paid on the local debt.

With reference to a further reduction of the local debt in consideration of the contribution of the Town to the county debt, between 1st December, 1858, and 1st December, 1859, I am instructed to say that no such further reduction can be made, as the capital of the local debt has already been reduced as of 1st December, 1858, by a sum considered to be equal to its share of the county debt.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH.
Act.-Secretary.

C. J. Macgregor, Esq.,
Stratford.

AUDITOR'S OFFICE.
TORONTO, June 6th, 1873.

SIR.—We the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Town of St. Catharines to the Province, under the amended Municipal Loan Fund Resolutions of 26th March last, and that the same amounts to $160,571 52.

The following is a statement of our calculations:—The Town of St. Catharines owed on its local debt, to the Municipal Loan Fund, on 1st January, 1873,

For principal	$190,000 00
And for interest	224,510 91
Making together	$414,510 91

The County of Lincoln (as organized for Municipal purposes) owed to the Municipal Loan Fund on 1st January last, $12,438 16. By the Statute 26 Vic., chap. 13, the Town of Niagara, and the Township of Castor and Gainsborough, were relieved of all liability to contribute towards the payment of the County debt, which must therefore be discharged by the remainder of the County, including St. Catharines, whose share of the County debt amounts to $4,296 67.

The total indebtedness of St. Catharines, in respect both to its local debt and its share of the County debt, was on 1st January last, $418,807 58.

By the 4th resolution, St. Catharines is entitled to an allowance of $232,407 30, in respect of the Welland Railway.

By the 6th resolution, St. Catharines is entitled to an allowance (as corrected) of $10,100 76, in respect of Clergy Reserve moneys retained.

According to the census of 1871, the population of St. Catharines was 7,864; the allowance of $2 per head under the 7th resolution will, therefore, amount to $15,728, (upon this sum the share of the County debt to be paid by St. Catharines, amounting to $4,296 67, is a first charge, leaving $11,431 33, to be applied on the local debt.)

The total amount therefore, with which the Town of St. Catharines is to be credited on the 1st of January by the Province is $258,236 06.

When this sum is deducted from the total indebtedness of $418,807 58, priority being given to the share of the County debt to be paid by St. Catharines, the sum remaining to be paid by St. Catharines on its local debt on the 1st of January, 1873, amounts to $160,571 52.

If you have any suggestions or objections to make with reference to the foregoing calculation, you are to make the same within fourteen days from this date.

With reference to the debentures to be given under the Municipal Loan Fund Act, we beg to state that a form will be prescribed by His Excellency the Lieutenant Governor in Council.

We remain,
Your obedient servants,

(Signed) WILLIAM CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Acting-Secretary.

To W. Mittleberger, Esq., Treasurer,
Town of St. Catharines.

TREASURER'S OFFICE,
ST. CATHARINES, June 20th, 1873.

GENTLEMEN,—We have to acknowledge the receipt of your communication of the 6th instant, in reference to the amount found to be due by the Municipality of the Town of St. Catharines, to the Municipal Loan Fund of the Province, showing an indebtedness in the sum of $160,571 52, and in regard to the same, we hereby beg, most respectfully, to submit the following in relation thereto, viz.:—

1st. That in regard to the calculation of the liability of this municipality, we have no means of judging as to the correctness of the same, not having, as yet, received the Act as passed by the Legislature, and which said Act was to have been sent, as promised, in one of your communications "in a few days."

2nd. That in regard to the interest, which according to your communication of the 10th of April last, will become due and payable on the 30th instant; we beg leave to offer the following suggestions, viz.:—

That payment of interest be deferred, so as to enable this municipality to collect its rates for the current year: if such an arrangement can be effected, this municipality would

not be forced to borrow any larger sum than would be necessary to meet the general necessities of Municipal Government.

3rd. That this municipality have been obliged to raise from the bank (up to the present time) the large sum of $13,000 00, and that before our rates for the present year can be collected, we will be compelled to negotiate further advances from the bank, to the very large sum of probably $12,000, and that in order we should economize in every possible manner, we believe that the suggestion contained in Answer Number two, would be to our interest, and result in great benefit to this municipality.

4th. We also beg leave respectfully to present the following statement of the liabilities of the Town of St. Catherines :—

Municipal Loan Fund, as per communication of June 6th	$160,571 52
Debentures payable in England in 1877	132,373 33
Debentures payable in Canada	22,700 00
Other liabilities	51,000 00
Total	$366 644 85

5th. That from the foregoing statement, this municipality will, for a great number of years, feel a burden which will over-tax the ability of its inhabitants, and also retard its growth and prosperity.

6th. That since the passing of the Act, property in this municipality has very largely deteriorated, as evidenced by the Assessment Roll of the present year, which has decreased from that of the preceding year by the very large sum of $382,182 00.

7th. That in order to meet the current expenses, and provide for the interest on the Municipal Loan Fund Debt, it will require an assessment of two cents on the dollar, a rate, never before reached, and one, which will, when announced, cause great excitement and dissatisfaction in this municipality.

8th. That while fully intending to provide during the present year the interest on the Municipal Loan Fund debt, we are not without the hope, that when the Government have more leisure time, to examine the details of our exceptional case, and that when the Legislature again assemble, they will be able to modify the terms of the settlement (as stated) to some considerable extent.

We remain, Gentlemen,
Your most obedient servants,
(Signed) H. H. Collier,
Mayor.
(Signed) W. A. Mittleberger,
Treasurer.

To the Honourable W. Cayley, Auditor,
and C. A. Brough, Secretary.

Auditor's Office.
Toronto, 28th June, 1873.

Sir,—I have to acknowledge the receipt of your letter in respect of the indebtedness of the Town of St. Catharines to the Municipal Loan Fund, which I have placed before the Attorney-General.

In reply he directs me to state that if the Town Council has determined frankly to carry out the obligations, for which the relief Act of last session provides, and pass a resolution to that effect, the Government will have no objection to avail itself of the 6th Section of the Act, and to dispense with the payment of interest on the 1st July, and to include the amount in the debt, for which debentures are to be given, but that the Government sees no object in relieving them from the interest in July, if compulsory measures are to be necessary for the purpose of procuring the obedience of the town to the requirements of the Statute as to the reduced debt.

I remain,
Your obedient servant,
(Signed) W. Cayley, *Auditor.*

To W. Mittleberger, Esq.,
Treasurer, Town of St Catharines.

TREASURER'S OFFICE,
ST. CATHERINES, June 30th, 1873.

SIR, I beg leave to acknowledge the receipt of your communication of the 28th instant, and will cause the same to be presented to the council for their action at their meeting.

Being desirous of knowing the manner upon which the balance due by this Municipality has been arrived at, and not fully understanding the same, I have been requested to obtain a copy or statement of the whole calculation, and with that view I would ask when it would be convenient that I should go over, to obtain such information for a better understanding of the subject.

I remain,
Your obedient servant,
(Signed) WM. A. MITTLEBERGER,
Treasurer, Town of St. Catharines.

AUDITOR'S OFFICE,
TORONTO, 30th October, 1873.

DEAR SIR,—I have placed before the Honourable the Treasurer, the claim you make on behalf of St. Catharines to be credited with a payment of £169 19s. 6d. made the 30th June, 1854, on its Municipal Loan Fund Debt. The Treasurer requests to be furnished with all the particulars establishing the payment, for his consideration.

Your obedient servant,
(Signed) W. CAYLEY.
Auditor.

To W. A. Mittleberger, Esq.,
St. Catharines.

Mr. Mittleberger had called at the Auditor's Office to state that the above amount had been paid. W. C.

TORONTO, June 30th, 1873.

SIR, - We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Town of Saint Mary's on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $18,764 55.

Of this sum, $12,524 55 are for an allowance in respect of the Buffalo and Lake Huron Railway.

The remainder of the sum to be paid to the municipality, amounting to $6,240 00, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary,

To the Clerk,
Town of St. Mary's.

NOTE.—Interest from 1st January, 1873, to 1st February, 1874, makes the difference between $118,81 and $12,524 55.

AUDITOR'S OFFICE,
TORONTO, June 17th, 1873.

SIR,—Will you please send me, for the use of the Honourable the Attorney-General, a statement of the arrangement as to the payment of County debts, including that to the Muni-

cipal Loan Fund, made between the Town of St. Thomas and the County of Elgin, at the time of separation.

I remain,
Your obedient servant,
(Signed) W. Cayley,
Auditor.

To H. F. Ellis, Esq.,
Clerk, Town of St. Thomas.

St. Thomas, 26th, June, 1873.

Sir,—In reply to your communication of the 19th instant, with reference to the amount paid by the Town of St Thomas on separation from the County of Elgin, as share of County debt, I beg to say that at the time of separation, 1861, it was agreed between the corporation of the County of Elgin and the corporation of the Town of St. Thomas, that the latter corporation should pay to the former the sum of three hundred and twenty dollars ($320 00) as share of the debt due by the County to the Municipal Loan Fund (for five years). This agreement has been twice renewed, and the amount of $320 00 has been regularly paid by the said Town to the County ever since the date of separation, and in addition to this the Town has paid to the County $280 for use of the Gaol, &c., and still continues to pay the same.

I remain,
Your obedient servant.
(Signed,) Henry T. Ellis,
Town Clerk.

To the Honourable Wm. Cayley,
Auditor.

Auditor's Office,
Toronto, 30th June, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Town of St. Thomas, under the Municipal Loan Fund Act, on 1st February, 1874, and that the same amounts to $15,488 10.

The following is a statement of our calculation :—

Allowances as of 1st January, 1873, in respect of local contribution to London and Port Stanley Railway	$10,004 01
Interest on same from 1st January, 1873, to 1st February, 1874	541 88
Share of allowance made to County in respect of London and Port Stanley Railway, which St. Thomas receives as a municipality in the County of Elgin, being one-twentieth of County allowance, deducting debt to Municipal Loan Fund	548 21
Allowance at rate of $2 per head of population, according to census of 1871	4,394 00
Total to be paid to St. Thomas	$15,488 10

This sum of $15,488 10 is to be paid over for such purpose pointed out in the 12th section of the said Act, as may be provided for by by-law of the Town passed after 1st February next, in accordance with the 13th section of said Act.

If there appears to you to be any error in the above statement, it should be brought to our notice within fourteen days from this date.

We remain,
Your obedient sevants,
(Signed) Wm. Cayley,
Auditor.
(Signed) C. A. Brough.
Acting-Secretary.

To H. F. Ellis, Esq.,
Clerk, Town of St. Thomas.

TOWNSHIP OF ST. VINCENT,
MEAFORD, 2nd July, 1873.

DEAR SIR,—I am directed by the Municipal Council of the Township of St. Vincent to ask the permission of your Government for the municipality to be allowed to expend the amount of the Municipal Loan Fund Distribution allotted to that township in the improvement of the harbour at Meaford, in that township.

The Ottawa Government have made a grant for the same purpose, on condition of the municipality granting a further sum of $10,000 to aid in the harbour improvement.

Your immediate reply will much oblige, as we wish to commence the harbour improvement at once, so as to be able to obtain the Dominion Grant of $15,000.

I have the honour to be,
Sir,
Your obedient servant,
(Signed) C. R. SING,
Reeve,
Township of St. Vincent.

To the Honourable O. Mowat,
Attorney-General, Toronto.

ATTORNEY-GENERAL'S OFFICE,
TORONTO, 4th July, 1873.

SIR,—In reply to your communication of the 2nd instant, I beg to state that I see no objection to the application of the money received by the Township of St. Vincent from the Municipal Loan Fund to the purpose you mention, in case of a by-law being passed for that purpose, after 1st February, 1874, as required by the Act.

I remain,
Your obedient servant,
(Signed) O. MOWAT,
Attorney-General.

To C. R. Sing, Esq.,
Reeve, Township of St. Vincent,
Meaford.

TORONTO, June 28th. 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Thorah on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $25 930; of this sum, $22,000 are for an allowance in respect of the Midland Railway.

The remainder of the sum to be paid to the Municipality, amounting to $3,930, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

Clerk, Township of Thorah.

AUDITOR'S OFFICE.
TORONTO, July 11th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the City of Toronto, on the 1st day of February, 1874, in accordance with the Municipal Loan Fund Act of last session, and that the same amounts to $165,984.

Of this sum, $37,500 are for an allowance in respect of the Toronto, Grey and Bruce Railway; $16,300 08 for an allowance in respect to the Toronto and Nipissing Railway; and the balance, amounting to $112,184 is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

Should there appear to you to be any error in the statement of the amount to be paid to the City of Toronto, you are to bring the same to our notice within fourteen days from this date.

The sum of $165,984 08, payable by the Province to the City of Toronto, is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-law, passed after the 1st day of February next, under the 13th section of the said Act.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.

To A. T. McCord,
Treasurer, City of Toronto.

(Signed) C. A. BROUGH,
Acting-Secretary.

CHAMBERLAIN'S OFFICE,
TORONTO, July 17th, 1873.

GENTLEMEN,—I am in receipt of your favour of the 11th instant, informing me that the sum to be paid by the Province to the City of Toronto, on the 1st day of February, 1874, in accordance with the Municipal Loan Fund Act, amounts to $165,984 08, and adding, "Should there appear to you to be any error in the statement of the amount to be paid to the "City of Toronto, you are to bring the same to our notice within fourteen days from this "date."

Having looked over the Act referred to, I cannot find any data by which I should be able to correct any error in the statement. I have, however, to call your attention to the fact, that there is no allowance made to the City of Toronto for the sum of $100,000 granted by the Corporation to the Credit Valley Railroad, nor for a large amount given in aid of the Grand Trunk and Northern Railways; also, about $750,000 expended by the Corporation in the construction of the Esplanade in front of the city for the benefit of the whole of the railroads passing through the same.

I am, gentlemen,
Your obedient servant.
(Signed) A. T. McCORD,
City Treasurer.

Messrs. W. Cayley and C. A. Brough,
Government Auditor, &c., Toronto.

P.S.—May I request that you will furnish me with such information as will enable me to examine and see if there is any error in the said apportionment.

AUDITOR'S OFFICE,
TORONTO, July 23rd, 1873.

SIR.—In reply to your letter of the 17th instant, as to the sum credited to the City of Toronto, under the Municipal Loan Fund Act, I beg to say that the sum was calculated

according to the principles laid down in the Amended Municipal Loan Fund Resolutions of he 26th March last, of which I enclose a copy.

You will observe that the 3rd and 4th paragraphs of the Resolutions refer to railway allowances, and that the only railways, aided by the City of Toronto, which come within the meaning of those paragraphs, are the Toronto, Grey and Bruce, and the Toronto and Nipissing.

You will also observe that railways are the only public works in respect of which special allowances have been made.

I remain,
Your obedient servant,
(Signed) C. A. Brough,
Acting Secretary.

A. T. McCord, Esq.,
Treasurer, City of Toronto

City Solicitor's Office, City Hall,
Toronto, 27th August, 1873.

Sir,—Referring to your letter of the 23rd ultimo, as to the basis upon which was calculated the sum credited to the City of Toronto, under the Municipal Loan Fund Act, I beg to call your attention to the fact that no allowance has been made to the city in respect of the aid given by us to the Toronto and Guelph Railway, a road which seems to come precisely under the terms of the 4th Resolution, having been built without any Provincial aid, but with large aid from the City of Toronto, and I believe the Town of Guelph also.

The road in question was constructed by a company, incorporated by the Act 14 and 15 Viet. cap. 148, which was assented to on the 30th August, 1851.

On the 2nd of October following, a public meeting of the citizens of Toronto was convened by the Mayor, and a resolution passed, desiring the Council to subscribe for stock in the new Railway Company, to the amount of $100,000 00.

The Council accordingly passed on the 1st December following, a by-law, authorizing the Mayor to subscribe on behalf of the city for $100,000 00 stock, and providing for the payment thereof by the issue of city debentures

The Legislature afterwards, by the Act of 16 Vic. cap. 30 and 76, authorized the consolidation of the Toronto and Guelph Railway with the Grand Trunk, upon such terms as might be agreed to by the directors of the two companies, and the arrangement thus made was confirmed by 18 Viet. cap. 33.

Previous to this consolidation the Toronto and Guelph Railway Company had been permitted by an Act of 16 Viet. cap. 41, to increase their capital stock from £250,000 0s. 0d. to £325,000 0s. 0d., and to extend their road westward from Guelph to Sarnia, and the aid which had already been given to the railway by the City of Toronto, is referred to in the recitals of this Act.

Under the agreement for amalgamation above referred to, the stock held by the City of Toronto in the Toronto and Guelph Road was to be represented in the Grand Trunk Railway Company, by 288 shares of £25 sterling each, amounting in all to £82,200 0s. 0d. sterling, which stock having been sold by the city under the authority of an Act of 22 Viet. cap. 71, realized only £38,200 0s. 0d. The unpaid balance of £61,800 0s. 0d. was accordingly made up, and the residue of the debentures redeemed by the issue of new ones for £47,200 sterling, under the authority of a by-law passed by the corporation on the 20th of February, 1860.

I submit, therefore, that the City of Toronto not having benefitted by the Act 22 Viet. cap. 15, is entitled under the 4th Resolution, to be credited with its relative proportion of the sum of $2,000 00 per mile for the fifty-one miles of railway thus aided, and that the right to compensation cannot have been taken away by the subsequent amalgamation of the Toronto and Guelph Road with the Grand Trunk Railway. The correctness of these statements can be ascertained by reference to His Honour the Lieutenant-Governor, and John

Fiskin, Esq., the only Directors of the Toronto and Guelph Railway Company now in Toronto.

I shall be happy to afford any further information which may be thought necessary.

I have the honour to be,
Sir,
Your obedient servant,
C. R. W. BIGGAR,
Acting for the City.

C. Allen Brough, Esq., Auditor's Office,
Provincial Treasurer's Department.

AUDITOR'S OFFICE,
TORONTO, September 17th, 1873.

SIR,—In reply to your letter of the 27th ultimo, and our subsequent conversations, I am instructed to say, that the Government does not consider that the City of Toronto is entitled to any allowance under the Municipal Loan Fund Act, in respect of the Toronto and Guelph Railway.

The facts appear to be briefly as follows:—

The construction of the line of railway, connecting Toronto with Guelph, was commenced in 1853. In 1855, before the construction was completed, the Toronto and Guelph Railway was amalgamated with the Grand Trunk; after the amalgamation the Government of the Province of Canada granted aid towards finishing the construction of the line, and putting it into a position to carry on business.

It appears, therefore, that the line of railway from Toronto to Guelph, was partially constructed by Government aid, the mere change of name from the Toronto and Guelph Railway Company to that of the Grand Trunk Railway Company, not materially effecting the case.

And under the foregoing circumstances, it is considered that the fourth paragraph of the Resolution does not apply.

With reference to the Esplanade, I am instructed to say, that railways are the only public works in respect of which special allowances have been made. And also to remind you, that none of the railways making use of the Esplanade, came within the meaning of the 4th paragraph of the Resolution.

I remain,
(Signed) C. A. BROUGH,
Acting-Secretary.

C. W. R. Biggar, Esq., City Solicitor,
Toronto.

TORONTO, June 21st, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the township of Uxbridge, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $14,957 37.

Of this sum, $5,433 37 are for an allowance in respect to the Toronto and Nipissing Railway.

The remainder of the sum to be paid to the Municipality, amounting to $9,524, is an allowance at the rate of two dollars per head of the population, according to the census of 1871.

If there is supposed to be any error in the above statement, as to the amount going to the Municipality, under the said Act, it should be brought under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting-Secretary.

Robert Spears, Esq., Clerk,
Township Uxbridge, Uxbridge.

CLERK'S OFFICE,
TOWNSHIP of Uxbridge, 4th September, 1873.

SIR,—In the letter advising us of the amount falling due to the Township of Uxbridge under the Municipal Loan Fund Act, I observe a discrepency between that amount and the amount given in Schedule G of the Act as published in the Statutes of Ontario; in said schedule as published in the Statutes, the Township of Uxbridge is to receive $17,924, while the notice sent me says, $14,957 57. Please explain.

I have the honour to be, Sir,
Your obedient servant,
(Signed) E. H. HILBORN,
Township Clerk.

To the Honourable Adam Crooks, Treasurer,
Province Ontario.

AUDITOR'S OFFICE,
TORONTO, 3rd December, 1873.

SIR.—In reply to your letter of the 4th of September last, to the Honourable the Provincial Treasurer, I am instructed to say, that the amount mentioned in the Schedule to the Municipal Loan Fund Act, as being payable to the Township of Uxbridge is incorrect, and that the amount payable to the Township is $14,957 37, as in the notice sent to you from this office.

The difference in the amount is occasioned by a change in the distribution of the allowance made is respect of the Toronto and Nipissing Railway, to Municipalities aiding the same.

The original distribution omitted several Municipalities which were entitled to share.

I remain,
Your obedient servant,
(Signed) WM. CAYLEY,
Auditor.

To E. H. Hilborn, Esq., Clerk.
Township of Uxbridge.

TORONTO June 30th, 1873.

SIR.—We the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Victoria, exclusive of Ops with Lindsay, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $34,672, being two dollars per head of the population, according to the census of 1871.

This sum of $34,672, is to be divided by the Government among the towns, townships, and incorporated villages in the County of Victoria, other than the Municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution, and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by laws of the Local Municipalities passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excepted above, are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Acting Secretary.

To the Treasurer, County of
Victoria.

COUNTY OF VICTORIA,
LINDSAY, 26th June, 1873.

SIR,—I have the honour to acknowledge the receipt of yours of the 21st instant.

According to the census of 1871, the population of the townships in this county, exclusive of those excepted in your letter, is as follows:—

Mariposa	5,363	at $2	$10,726 00
Emily	3,790	"	7,580 00
Verulam	2,692	"	5,384 00
Fenelon	3,949	"	7,898 00
Carden and Dalton	1,027	"	2,054 00
Lutterworth, Anson and Hindon	515	"	1,030 00
	$17,336	at $2	$34,672 00

The amount allotted to be paid, as stated in your letter, is correct.

According to the census, as well as the Municipal Loan Fund Resolutions, the Townships of Draper, Ryde and Oakley	521	at $2	$1,042 00
Macauley	868	"	1,736 00
Stephenson	505	"	1,010 00
	1,894	at $2	$3,788 00

Although these townships form part of this County, are represented in the County Council, and are under the municipal jurisdiction of the County.

Is it your intention to pay the $34,672 through me as County Treasurer, and do you wish me to notify the reeves of these townships of the sums their municipalities will receive? If so, it strikes me that you should add to the $34,672, the sum of $3,788, making a total of $38,460.

I have the honour to be,
Your obedient servant,
(Signed) H. WOOD,
County Treasurer.

To the Honourable William Cayley.
Toronto.

AUDITOR'S OFFICE,
TORONTO, July 8th, 1873.

SIR,—In reply to your communication of the 26th ultimo, as to the allowance to the municipalities in the County of Victoria under the Municipal Loan Fund scheme, I have been instructed by the Honourable the Attorney-General to inquire from you whether the Townships of Macauley and Stephenson, and the United Townships of Draper, Ryde and Oakley have been incorporated since the taking of the census of 1871, or what other reason there may have been for excluding those townships from the census returns.

You will also be good enough to state what the populations of the above named townships were at the time of the taking of the census in 1871; and also the means by which you have arrived at your conclusions, and the evidence upon which you have relied.

I remain,
Your obedient servant,
(Signed) C. A. BROUGH,
Acting Secretary.

To H Wood, Esq.,
Treasurer, County of Victoria, Lindsay.

TORONTO, June 30th, 1873.

SIR,—We the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the municipalities in the County of Waterloo, exclusive of Berlin and Preston, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $72,200 00, being two dollars per head of the population, according to the census of 1871.

This sum of $72,200 00 is to be divided by the Government among the towns, townships and incorporated villages in the County other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipalities excepted above are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Act.-Secretary.

To the Treasurer
County of Waterloo.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the municipalities in the County of Welland, exclusive of Bertie, Chippewa, Wainfleet and Fort Erie, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $36,794 00, being two dollars per head of the population, according to the census of 1871.

This sum of $36,794 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Welland, other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipalities excepted above are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Act.-Secretary.

To the Treasurer,
County of Welland.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Wellington, exclusive of Guelph Township, Guelph Town, Elora, Fergus, Maryborough, Minto, Nichol, Orangeville, Peel, Amaranth, Arthur and Mount Forest, on 1st Fe-

bruary, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $46,770 00, being two dollars per head of the population, according to the census of 1871.

This sum of $46,770 00 is to be divided by the Government among the towns, townships and incorporated villages in the County of Wellington, other than the municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipalities excepted above are excluded from sharing in the above allowance because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

To the Trsasurer,
County of Wellington.

Toronto, June 30th, 1873.

Sir,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of Wentworth, exclusive of the Town of Dundas, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $55,496 00, being two dollars per head of the population, according to the census of 1871.

This sum of $55,496 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of Wentworth, other than the municipality excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Municipalities, passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The municipality excepted above is excluded from sharing in the above allowance, because it has been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) Wm. Cayley,
Auditor.

(Signed) C. A. Brough,
Act.-Secretary.

To the Treasurer,
County of Wentworth.

(Duplicate.)

Toronto, June 28th, 1873.

Sir,—We. the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Township of Wallace, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $2,684 58.

This sum is for an allowance in respect of the Wellington, Grey and Bruce Railway.

Should there appear to you to be any error in the above statement, it should be brought to our notice within fifteen days from this date.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Act.-Secretary.

To the Township Clerk,
Township of Wallace.

NOTE.—For change in amount of allowance to Wallace, in respect of Wellington, Grey and Bruce Railway, see circular in Elora correspondence.

AUDITOR'S OFFICE,
TORONTO, June 24th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you that we have calculated the sum to be paid by the Province to the Township of Wainfleet under the Municipal Loan Fund Act, and that the same amounts to $22,545 24, as of 1st February, 1874.

The following is a statement of our calculation :—

Allowance in respect of Buffalo and Lake Huron Railway as of 1st January, 1873.		$20,323 41
Interest thereon from 1st January, 1873 to 1st February, 1874		1,105 08
Allowance at rate of two dollars per head according to census of 1871.		5,346 00
Total to credit of Wainfleet		$26,774 49
Less :		
Balance of debt to Municipal Loan Fund on 1st Jan., 1873.	$4,011 16	
Interest thereon from 1st January, 1873, to 1st Feb., 1874.	218,09	4,229 25
Balance payable to Wainfleet		$22,545 24

Should there appear to you to be any error in the foregoing calculation, you are to bring the same under our notice within fourteen days from this date.

We remain,
Your obedient servants,
(Signed) WM. CAYLEY,
Auditor.
(Signed) C. A. BROUGH,
Act.-Secretary.

B. O'Reilly, Esq.,
Clerk, Township of Wainfleet.

TORONTO, June 30th, 1873.

SIR,—We, the undersigned, have been instructed by the Government to inform you, that we have calculated the sum to be paid by the Province to the Municipalities in the County of York, exclusive of the Townships of Scarborough and Markham, on 1st February, 1874, according to the provisions of the Municipal Loan Fund Act, and that the same amounts to $94,230 00, being two dollars per head of the population, according to the census of 1871.

This sum of $94,230 00 is to be divided by the Government among the towns, townships, and incorporated villages in the County of York, other than those municipalities excepted above, according to their respective populations, as directed by the 7th paragraph of the Municipal Loan Fund Resolution; and is to be paid over for such purposes pointed out in the 12th section of the said Act, as may be provided for by by-laws of the Local Munici-

palities passed after the 1st day of February next, in accordance with the 13th section of the said Act.

Should there appear to you to be any error in the above statement, it should be brought to our attention within fifteen days from this date.

The Municipalities excepted above, are excluded from sharing in the above allowance, because they have been separately dealt with by the Government.

We remain,
Your obedient servants,
(Signed) W. CAYLEY,
Auditor.

(Signed) C. A. BROUGH,
Act.-Secretary.

To J. K. McDonald, Esq.,
Treasurer, County of York.

EXPLANATION *of the mode of distribution of Government Allowance in Railway Tables, 3 A., 3 B. and 3 C.*

The Government ascertained the amount of aid given by each municipality to the railway, and distributed the allotment per mile in proportion to the aid given, amongst the different municipalities aiding the road. Compound interest on the ascertained share of each was then allowed from the date when the loan was made by the municipality to the railway, and the total of principal and interest so ascertained credited to the municipality.

Take for instance the Township of Bertie :

Bertie loaned the Buffalo and Lake Huron Road $40,000 out of a total of $829,000 applied by the various municipalities in aid of that road; the Government allowance at $2,000 a mile was $320,000.

Bertie's share of which would be a few cents short of.....	$15,537 00
Interest compounded at five per cent. from 16th April, 1853, on 19 years 260 days.....	25,107 23
Giving Bertie as a total to be credited to the Township.....	$40,644 23

MUNICIPAL LOAN FUND—TORONTO, GREY AND BRUCE RAILWAY.

From a letter received from Mr. Sutherland Taylor, Secretary to the Toronto, Grey and Bruce Railway Company, it appears that the portion of the railway between Toronto and Arthur (72 miles) is the only portion coming within the meaning of the 5th Municipal Loan Fund Resolution as having been "*commenced prior to 7th December*, 1870," and in respect of which allowances can be made to municipalities granting bonuses in aid of the railway.

From the letters of Mr. Sutherland Taylor, and telegrams received from the Clerks of Mount Forest, Owen Sound, and the County of Grey, it appears that the following municipalities voted bonuses to the amount mentioned after their names, in aid of the railway, and that they are the only municipalities which voted such bonuses prior to the passing of the Railway Act in 1871.

Toronto	$250,000 00
Albion	40,000 00
Caledon	45,000 00
Mono.....	45,000 00
Amaranth	30,000 00
Orangeville.....	15,000 00
Arthur	35,000 00
Mount Forest.....	20,000 00
	$480,000 00

Luther voted a bonus of $20,000 but it was forfeited by the Railway Company, and never paid.

The length of the railway from Toronto to Arthur is 72 miles, which, at the rate of a $1,000 a mile, makes the allowance to be divided, $72,000.

The following table shews the shares of the $72,000 to be received by the municipalities named:

Toronto	$37,500 00
Albion	6,000 00
Caledon	6,750 00
Mono	6,750 00
Amaranth	4,500 00
Orangeville	2,250 00
Arthur	5,250 00
Mount Forest	3,000 00
	$72,000,00

MUNICIPAL LOAN FUND—TORONTO AND NIPISSING RAILWAY.

Mr. Graham, the Secretary of the railway, states that the following Municipalities voted bonuses to the amounts mentioned after their names, prior to the 7th day of December, 1870:

Toronto	$150,000 00
Scarborough	10,000 00
Markham	30,000 00
Uxbridge	50,000 00
Scott	10,000 00
Brock	50,000 00
Eldon	44,000 00
Bexley	15,000 00
Somerville	15,000 00
Laxton, Digby and Longford	12,500 00
	$386,500 00

Mr. Leys, the solicitor of the Toronto and Nipissing Railway Company, states that the only portion of the line which can possibly come within the meaning of the Municipal Loan Fund Resolutions, as entitling the municipalities granting bonuses in aid thereof, to receive the allowance of $1,000 00 per mile in accordance with the Resolutions, is that portion between Toronto and Uxbridge (42 miles.)

The length of the line from Toronto to Uxbridge of 42 miles, which at the rate of $1,000 00 per mile, would make the allowance to be divided $42,000 00.

The following table shows the shares of the $42,000 00, to be received by the municipalities granting bonuses:—

Toronto	$16,300 08
Scarborough	1,086 69
Markham	3,260 03
Uxbridge	5,433 37
Scott	1,086 69
Brock	5,433 37
Eldon	4,781 36
Bexley	1,630 03
Somerville	1,630 03
Laxton, Digby and Longford	1,358 35
	$42,000 00

Wellington, Grey and Bruce Railway.

By returns made by the Secretary of the railway and others, it appears that the only portion of the road not entitled to aid under the Railway Aid Act, is that portion from Guelph to Harriston (48 miles.)

The following Municipalities voted bonuses to the amounts mentioned after their names, prior to the passing of the Railway Aid Act, and are entitled to share in the distribution of the Government allowance :—

Elora	$10,000 00
Fergus	10,000 00
Nichol Township	10,000 00
Peel Township	40,000 00
Maryborough	40,000 00
Wallace	25,000 00
Minto	65,000 00
Howick	20,000 00
Total	$220,000 00

The length of the line from Guelph to Harriston is 48 miles, which at the rate of $1,000 00 per mile, makes the allowance to be divided, $48,000 00.

The following table shows the shares of the $48,000 00 to be received by the Municipalities, being at the rate of $218 18 per $1,000 00 :—

Elora	$2,181 82
Fergus	2,181 82
Nichol	2,181 82
Peel	8,727 27
Maryborough	8,727 27
Wallace	5,454 54
Minto	14,181 82
Howick	4,363 64
	$48,000 00

STATEMENT

Of the Returns forwarded to the Office of the Provincial Secretary, of all Fees and Emoluments received by the Registrars of Ontario for the year 1873, made in accordance with the Provisions of the Statutes of Ontario, 31 Vic., Cap. 20, Sec. 74.

By Command.

C. F. FRASER,

Secretary.

Provincial Registrar's Office,
23rd February, 1874.

STATEMENT of the Returns forwarded to the Office of the Provincial Secretary, of made in accordance with the provisions of Statutes of Ontario, 31 Vic., Cap. 20,

OFFICE.	REGISTRAR.	Number of Municipalities in the District.	Number of Instruments registered during the year 1873.	Number of Instruments registered during the year 1872.	Amount of Fees	
					Total for Registrations under Sub-Secs. 1, 6, 9, 12, 13.	For Searches, Sub-Secs. 2, 3, 11.
					$ cts.	$ cts.
Algoma District	John Savage					
Brant	T. S. Shenston	7	1624	1779	2803 00	195 55
Bruce	John McLay	17	3391	3152	4532 30	331 30
Carleton	Edward Sherwood	10	2074	2879	3064 20	121 70
Dundas	John Pliney Crysler	6	905	972	1258 67	39 40
Durham, East Riding	George M. Ward	4	1117	927	1384 45	364 20
Do., West Riding	Robert Armour	5	862	874	1258 60	110 45
Elgin	John McKay	10	3142	2891	4357 25	343 75
Essex	James Wallace Askin	14	2976	2742	4097 02	315 09
Frontenac	Rodk. McBain Rose.	18	1425	1071	2031 10	288 35
Glengarry	Alexander M. McKenzie	5	561	492	744 20	120 65
Grenville	Wm. J. Scott	8	1244	1199	1683 65	120 50
Grey, North Riding	Thomas Lunn	10	2058	2105	2574 90	84 25
Do. South Riding	Thomas Lauder	9	1463	1622	1946 38	90 50
Haldimand	A. P. Farrell	13	1304	1406	1914 82	331 77
Halton	Thomas Racey	7	1218	1478	1674 60	284 90
Hastings	W. H. Ponton	30	3504	2597	4266 85	544 85
Huron, North Riding	William T. Hays	11	2583	2462	3351 60	24 75
Do. South Riding	James Dickson	9	1617	1647	2054 55	126 35
Kingston, City	E. J. Barker	1	464	396	11 00	172 45
Kent	Peter D. McKellar	14	4315	4120	5628 25	435 65
Lambton	Thomas W. Johnston	16	4099	3692	5467 95	841 50
Lanark, North Riding	John Menzies	7	822	816	1169 45	42 50
Do South Riding	James Bell	10	1147	1051	1652 15	190 55
Leeds	Ormond Jones	14	2086	1746	2619 88	84 10
Lennox and Addington	M. P. Roblin	12	1470	1275	2088 15	169 15
Lincoln	John Powell	10	2183	2143	2940 15	125 90
London, City	W. C. L. Gill	1	1273	1321	1741 42	318 00
Middlesex, E. and N. Riding	James Ferguson	12	3655	3566	4800 25	233 47
Do West Riding	Stephen Blackburn	8	1603	1539	2170 50	110 55
Muskoka	J. E. Lount	0	511	706	767 70	9 75
Nipissing	John Doran		21	34	30 15	1 25
Norfolk	F. L. Walsh	8	2222	2314	2553 03	204 83
Northumberland, East Riding	J. M. Grover	7	1426	1463	1940 50	205 50
Do West do	W. H. Eyre	5	1071	912	1534 40	120 35
Ontario	John Ham Perry	14	2635	3112	3745 05	320 25
Ottawa, City	Alexander Burritt	1	1774	1390	3318 65	439 60
		Decla	r'n of Part	nerships	22 85	
Oxford	James Ingersoll	15	3235	3216	4657 00	323 70
Parry Sound District	Patrick McCurry	11	98	205	182 35	18 25
Peel	D. F. Campbell	8	1471	1367	2130 33	132 60
Perth, North Riding	Samuel Robb	8	2109	1772	2825 20	224 20
Do South do	Patrick Whelhan	7	1358	1333	1715 05	148 20
Peterborough	Charles Rubidge				257 20	66 40
	Barlee Dep.	33	1902	1675	161 60	38 15
	Fred. W. Haultain				2148 35	647 75
Prescott	John Higginson	8	930	905	1318 45	62 75
Prince Edward	John P. Roblin	9	1075	1063	1536 55	156 50
Renfrew	Andrew Irving	23	1662	1328	2233 59	293 20
Russell	James Keays	4	573	445	862 45	7 50
Simcoe	Samuel Lount	23	5218	5194	6619 05	615 45
Stormont	John Copeland	5	755	727	1021 35	199 80
Thunder Bay District	Delavan D. Van Norman	11	348		1 00	10 80
Toronto, City	Charles Lindsey	1	4511	4155	6947 60	1682 49
Victoria	J. P. Dunsford	17	2439	2543	3313 03	257 70

all Fees and Emoluments received by the Registrars of Ontario for the year 1873, Sec. 74; with which are contrasted Receipts of the same nature in 1871 and 1872.

received under the Tariff as allowed by Sub-Sections 1 to 13 of Section 70 of the Act.							
			Special Receipts.				
For Abstracts, Sub-Sec. 4.	For Certificates, Sub-Sec. 5.	For Affidavits and Oaths, Sub-Sec. 10.	For Abstract, Indices, Sub-Sec. 8.	For work connected with Instruments, and paid for by County Treasurer, Sub-Sec. 7.	Gross Amount of Fees Proper, 1873.	Gross Amount of Fees Proper, 1872.	Gross Amount of Fees Proper, 1871.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
.....	.....	.....	.....	.....	.....	.....	104 35
307 85	In Abstracts.	3 50	55 50	None	2803 00	2954 50	3223 60
1297 75	None.	None.	None	None	6161 35	5579 00	5181 25
381 05	50 90	....	None	None	3617 85	3472 28	2963 70
75 95	3 50	22 00	None	None	1399 52	1351 65	1250 15
	Releases of Mortgages,	Other Documents,					
.....	120 50	89 65	None	None	1958 80	1645 35	1773 73
342 60	.....	.....	None	None	1711 65	1764 38	1733 10
416 07	8 75	4 25	None	None	5130 07	4550 54	4613 85
694 86	10 25	12 25	Notsettled for yet by County.	None	5129 47	4380 72	4017 78
192 20	9 75	10 15	None	None	2531 55	1958 55	1907 90
58 98	4 00	34 40	None	None	962 23	872 15	787 38
199 00	8 25	8 75	2 00	None	2019 55	1993 65	1686 60
480 95	43 50	3 75	None	None	3187 35	3487 70	5269 85
373 65	32 25	.....	None	None	2442 78	2504 95	879 80
226 22	3 25	9 50	None	None	2485 56	2533 69	2675 30
133 00	10 30	0 50	None	None	2104 10	2367 90	2145 80
765 80	87 25	27 00	.....	.....	5673 75	4585 90	4328 84
723 95	19 00	1 50	None	None	4120 80	4100 82	839 20
474 55	14 75	2 75	None	178 15	2672 95	2433 05	5533 30
24 95	9 10	None.	None	None	840 60	777 97	723 00
1191 85	19 00	5 00	None	None	7279 75	7065 45	6400 89
678 00	9 00	2 25	None	None	6998 70	7131 05	5833 80
34 49	5 50	4 25	None	None	1256 19	1250 80	1076 80
60 05	13 15	7 00	None	None	1022 90	1939 35	1580 10
159 30	.....	30 35	None	None	2893 63	2893 62	2730 01
234 10	3 50	1 75	None	None	2496 65	2470 35	2179 95
409 05	27 03	.....	None	None	3502 13	3610 33	3004 55
85 70	Copies 136 15	1 00	None	None	2282 50	2308 56	2111 91
437 40	46 15	2 00	None	9 20	5528 47	5794 90	7021 18
573 06	165 17	31 50	None	None	3050 78	2804 98	942 19
76 55	7 25	4 00	None	None	865 25	981 05	510 59
.....	0 25	.....	None	None	31 65	65 50	5 85
263 61	Included in	Registration s 100		None	3021 27	3783 08	3146 17
782 60	39 65	2 25	None	None	2970 70	2741 55	2325 10
549 35	28 75	2 50	None	None	2233 35	1856 47	1912 93
968 70	75 15	0 25	None	None	5109 40	6522 65	4570 50
332 50	62 50	None	None	None	4176 10	3000 95	2417 80
1303 19	25 50	8 75	None	None	6318 39	6357 61	5522 76
12 00	2 50	6 75	None	None	222 40	403 60	.....
432 33	14 00	1 25	None	None	2710 51	2596 07	2466 06
391 25	24 30	None	None	3 40	3464 95	3297 07	4098 32
382 40	124 70	None			2370 25	2297 75	590 80
Included in	Included else-		None	None			
Searches.	where.	None	None	None	323 60	}	
do.	do.	None	None	None	199 75	2919 70	2852 70
do.	do.	None	None	None	2796 10	}	
37 30	30 70	None	None	None	1452 45	1376 60	1112 05
176 95	11 50	25 50	None	None	1907 00	1770 34	1734 41
210 13	14 80	2 75	None	None	2754 47	2217 25	1495 22
107 80	None.	44 75	None	None	1022 50	785 99	861 79
Included in	.....	.....		None	7234 50	7149 45	7692 68
Searches.			None	None			
83 70	3 25	8 00	None	None	1316 10	1317 75	1055 25
20 50	None.	None	None	None	401 79	.....	167 27
300 30	142 35	.....	None	None	9072 74	8128 45	7835 98
673 86	.....	.....	None	None	4244 59	4167 82	4172 46

STATEMENT of the Returns forwarded to the Office of the Provincial Secretary, of made in accordance with the provisions of Statutes of Ontario, 31 Vic., Cap. 20,

OFFICE.	REGISTRAR.	Number of Municipalities in the District.	Instruments registered during the year 1873.	Instruments registered during the year 1872.	Amount of Fees	
					Total for Registrations under Sub-Secs. 1, 6, 9, 12, 13.	For Searches, Sub-Secs. 2, 3, 11.
					$ cts.	$ cts.
Waterloo	D. McDougall	11	1947	1955	2669 05	218 15
Welland	D. D'Everardo	14	1926	1742	2645 98	479 20
Wellington, North Riding	John Anderson	9	1935	1668	2564 00	78 90
Do South do	James Webster	12	2564	2812	3530 10	357 35
Wentworth	John H. Greer	10	4133	3662	5737 12	342 55
York, North Riding	James J. Pearson	8	1277	1321	1849 60	226 10
Do South do	John Ridout	8	2011	1813	3065 96	495 90
			110322	104792		
			1873.	1872.		

NOTE.—The Offices may be generally classified as under:—

Receipts—

Over $9000—(1)—City of Toronto.
Over $8000 and under $8500—(1)—Wentworth.
Over $7000 and under $7500—(2)—Simcoe, Kent.
Over $6500 and under $7000—(1)—Lambton.
Over $6000 and under $6500—(2)—Bruce, Oxford.
Over $5500 and under $6000—(2)—Hastings, East Riding of Middlesex.
Over $5000 and under $5500—(3)—Elgin, Essex, Ontario.
Over $4500 and under $5000—(1)—Wellington, South Riding.
Over $4000 and under $4500—(3)—Victoria, Ottawa City, North Riding of Huron.
Over $3500 and under $4000—(4)—South Riding of York, Welland, Lincoln, Carleton.
Over $3000 and under $3500—(7)—North Riding of Wellington, Waterloo, Peterboro', North Riding of Perth, Norfolk, West Riding of Middlesex. North Riding of Grey.
Over $2500 and under $3000—(7)—Renfrew, Peel, Leeds, South Riding of Huron, Frontenac, Brant, East Riding of Northumberland.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 23rd February, 1874.

all Fees and Emoluments received by the Registrars of Ontario for the year 1873, Sec. 74; with which are contrasted Receipts, &c.—*Continued.*

received under the Tariff as allowed by Sub-Sections 1 to 13 of Section 70 of the Act.							
			Special Receipts.				
For Abstracts, Sub-Sec. 4.	For Certificates, Sub-Sec. 5.	For Affidavits and Oaths, Sub-Sec. 10.	For Abstract Indices, Sub-Sec. 8.	For work connected with transfer of Instruments, and paid for by County Treasurer, Sub-Sec. 7.	Gross Amount of Fees Proper, 1873.	Gross Amount of Fees Proper, 1872.	Gross Amount of Fees Proper, 1871.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
329 35	28 50	12 75	None	None	3257 80	3504 00	2788 20
458 03	3 50	15 75	None	None	3602 46	3524 04	3921 91
							For three months,
645 50	6 50	5 00	None	None	3299 90	3152 30	653 90
657 25	124 10	.....	None	None	4668 80	4689 45	6665 32
1953 49	44 25	6 00	None	None	8083 41	7440 07	6779 83
203 85	4 00	.....	None	None	2373 55	2499 95	2265 51
299 05	50 25	4 00	None	None	3915 16	3652 95	3591 31
					189585 52	183783 48	167899 80
					1873.	1872.	1871.

Over $2000 and under $2500—(8)—North Riding of York, West Riding of Northumberland, South Riding of Perth, City of London, Halton, Lennox and Addington, Haldimand, Grenville, South Riding of Grey.

Over $1500 and under $2000—(4)—Prince Edward, South Riding of Lanark, West Riding of Durham, East Riding of Durham.

Over $1000 and under $1500- (5)—Stormont, Russell, Prescott, Dundas, North Riding of Lanark.

Over $500 and under $1000—(3) Muskoka, City of Kingston, Glengarry.

Over $250 and under $500—(1)—Thunder Bay District.

Under $250—(2)—Parry Sound District, Nipissing.

The Return for Algoma District for 1873 has not yet been received.

The total number of instruments registered in 1873 shows an increase of 5540 over the number for 1872, and of 15,319 over that of 1871.

The total amount of fees received in 1873 shows an increase of $5,802 04 over the amount returned in 1872, and of $21,685 72 over that of 1871.

The increase of fees must be attributed to the same causes as were indicated in last year's statement—viz., tranference of property consequent on the construction of Railways, and the registration of sales of Timber and Mineral Lands.

I. R. ECKART,
Assistant Secretary.

RETURN

To an address of the Legislative Assembly to His Excellency the Lieutenant-Governor, praying his Excellency to cause to be laid before the House a Return showing (1st.) The names of the several Railways to which moneys have been granted under the Railway Aid Act and the Railway Subsidy Act; (2nd.) The amount granted to each Railway, and for what section thereof; (3rd.) The amount paid to each Railway; (4th.) The names of the Railways (if any) which have forfeited the amount granted, or any part thereof.

Presented to the Legislative Assembly by command of His Excellency the Lieutenant-Governor.

C. F. FRASER,
Secretary.

Provincial Secretary's Office,
Toronto, 19th February, 1874.

Toronto, 18th February, 1874.

Sir,—I have the honour to submit herewith a Return to an address to His Excellency the Lieutenant-Governor, praying His Excellency to cause to be laid before the Legislature a Statement showing the names of the several Railways to which monies have been granted under the Railway Aid Act; also, the amount granted to each Railway, and for what section thereof, with the amounts paid to each Railway during the years 1872 and 1873. I have further to state that no payments have been made under the Railway Subsidy Act, and that no railways have, as yet, forfeited the amounts granted.

I have the honour to be, Sir,

Your obedient Servant,

Adam Crooks,
Treasurer.

The Hon. the Provincial Secretary.

RAILWAY AID FUND.

Date of Order in Council.	Name of Railway.	Miles.	Between.	Rate per Mile.	Total Sum.	Appropriation.	Amount Paid.	Amount Unpaid.
				$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Oct. 14, 1871.	Northern Extension	21	Collingwood and Meaford	2,000 00	42,000 00			
Do	Toronto S. and Muskoka	22	Barrie and Orillia	2,000 00	44,000 00			
Do	do	12	Orillia and Washago	4,000 00	48,000 00			
March 26, 1872.	Northern Extension	14	Washago and Gravenhurst	4,000 00	56,000 00			
Feb. 28, do	Toronto and Nipissing	33½	Uxbridge and Portage Road	2,000 00	67,000 00	190,000 00	134,344 00	55,656 00
Do	do	12½	Portage Road and Coboconk	3,000 00	37,500 00			
Do	Wellington, Grey and Bruce	53½	Harriston and Southampton	2,000 00	107,000 00	104,500 00	104,860 00	
Nov. 14, do	do		Order of 25th March granting $2250 per mile between Wingham and Kincardine lapsed and was replaced by that of					
June 14, do	do	28	Wingham and Kincardine	2,000 00	56,000 00			
March 25, do	Toronto, Grey and Bruce	22	Harriston and Wingham	2,000 00	44,000 00	163,000 00	164,344 00	
Feb. 28, do	do	47	Orangeville and Harriston	2,000 00	94,000 00			
Do	do	68	Orangeville and Owen Sound	2,000 00	136,000 00			
Do	Midland	21	Beaverton and Orillia	2,000 00	42,000 00	274,000 00	231,592 00	42,408 00
March 25, do	do	33	Orillia and Mundy's Bay	2,650 00	87,450 00			
Do	Mon. and Ottawa Junction	66	Ottawa and Boundry Line	2,000 00	132,000 00	129,450 00	40,800 00	88,650 00
Do	Grand Junction	86	Belleville and Lindsay	2,000 00	172,000 00	132,000 00		132,000 00
Do	Canada Central	45	Sand Point and Pembroke	2,650 00	119,250 00	172,000 00		172,000 00
Do	Kingston and Pembroke	20	Northerly from Kingston	2,000 00	40,000 00	119,250 00		119,250 00
Do	do	15	Northerly from last mentioned point	2,650 00	39,750 00			
Do	do	93	That point and a point 23 miles S. Pembroke	3,250 00	302,250 00			

Do	do ...	7	Between that and a point 16 miles S. Pem. ..	2,650 00	18,550 00	400,550 00	.....	400,550 00
Do	Hamilton and Lake Erie	32·374	Hamilton and Caledonia	2,000 00	64,748 00	64,748 00	64,748 00	
March 12, 1873.....	Port Whitby and Port Perry..	20	Lake Ontario and Lake Scugog...	2,000 00	40,000 00	40,000 00	40,000 00	
Do 24, do	London, Huron and Bruce.....	66⅘	London and Wingham	2,000 00	133,600 00	133,600 00	....	133,600 00
Do	Prince Edward County	32	G. T. R. and Picton	2,500 00	80,000 00	80,000 00	....	80,000 00
Do	Port Dover and Lake Huron ..	40	Port Dover and Woodstock.....	2,000 00	80,000 00	80,000 00	.....	80,000 00
Do 26, do	Cobourg, Pet., and Marmora..	9·370	Ashburnham and Chemung Lake.	2,000 00	18,740 00	18,740 00	18,740 00	
Do 28, do	Credit Valley.....	41½	Tronton and Brock Road.....	184 44 per annum for 20 years or 2000.....	83,000 00			
Do	do	27½	Streetsville and Alton	184 44 per annum for 20 years or 2000	55,000 00	138,000 00	.....	138,000 00
						2,239,838 00	799,428 00	1,442,114 00

STATEMENT showing the amount paid to Railways from the Railway Aid Fund, during the years 1872 and 1873.

—	—	$ cts.	$ cts.
March 25, 1872.....	*The Toronto and Nipissing Railway Company.*—On account of grant for that portion of the line between Uxbridge Station and Midland Junction Station, being $23\frac{500}{1000}$ miles, at $2000 per mile	47,000 00	
October 29, 1872.....	On account of grant for that portion of the line between Woodville Junction and the Portage Road, being $9\frac{772}{1000}$ miles, at $2000 per mile	19,544 00	
	And between the Portage Road and Coboconk Station, being $12\frac{778}{1000}$ miles, at $3000 per mile	38,316 00	
			104,860 00
March 30, 1872.....	*The Toronto, Grey and Bruce Railway Company.*—On account of grant for that portion of the line between Orangeville Station and Mount Forest Station, being $38\frac{250}{1000}$ miles, at $2000 per mile.....	76,500 00	
November 28, 1872...	On account of grant for that portion of the line between Orangeville Station and Owen Sound, being $20\frac{823}{1000}$ miles, at $2000 per mile	41,646 00	
January 1, 1873.....	On account of grant for that portion of the line between Orangeville and Owen Sound, $35\frac{75}{100}$ miles.....	71,500 00	
July 2, 1873.....	On account of grant for Owen Sound Branch, $12\frac{040}{1000}$ miles, balance due	24,096 00	
November 26, 1873...	On account of grant for that portion of the line between Mount Forest and Harriston, $8\frac{925}{1000}$ miles	17,850 00	
			231,592 00
April 10, 1872.....	*The Northern Extension Railway Company.*—On account of grant for that portion of the line between Barrie Station and Orillia Station, being $22\frac{200}{1000}$ per mile	44,400 00	
November 19, 1872...	On account of grant for that portion of the line between Collingwood Station and Meaford Station, being $20\frac{520}{1000}$ miles, at $2000 per mile	41,040 00	
August 26, 1873.....	On account of grant for that portion of the line between Orillia and Washago, $12\frac{226}{1000}$ miles.....	48,904 00	
			134,344 00
August 7, 1872.....	*The Wellington, Grey and Bruce Railway Company*—On account of grant for that portion of the line between Harriston Station and boundary line of the County of Bruce, being $9\frac{170}{1000}$ miles, at $2000 per mile.....	18,340 00	
August 22, 1872.....	On account of grant for that portion of the line within the County of Bruce, being 23 miles	46,000 00	
February 3, 1873.....	Balance of Bonus unpaid	60 00	

March 24, 1873.....	On account of grant for that portion of the line between Harriston and Paisley, $21\frac{772}{1000}$ miles....	43,544 00	
November 20, 1873...	On account of grant for that portion of the line between Wingham and Kincardine, $28\frac{200}{1000}$ miles.....	56,400 00	164,344 00
February 5, 1873.....	*The Hamilton and Lake Erie Railway Company*—On account of grant for that portion of the line between Hamilton and Caledonia, $16\frac{874}{1000}$ miles.....	33,748 00	
September 26, 1873...	On account of grant for that portion of the line between Caledonia and Jarvis, $15\frac{500}{1000}$ miles	31,000 00	64 748 00
January 9, 1873	*The Midland Railway Company.*—On account of grant for that portion of the line between Beaverton and Orilla, $20\frac{400}{1000}$ miles.....	40,800 00	40,800 00
September 16, 1873 ..	*The Cobourg, Peterboro', and Marmora Railway Company.*- On account of grant for that portion of the line between Ashburnham and Chemong Lake, $9\frac{370}{1000}$ miles	18,740 00	18,740 00
December 22, 1873....	*The Port Whitby and Port Perry Railway Company.*—On account of grant for that portion of the line between Port Whitby and Port Perry, being 20 miles, at $2000 per mile	40,000 00	40,000 00
	Total amount paid in 1872 and 1873.....		799,428 00

Certified Correct,
W. R. HARRIS,
Accountant.

ADAM CROOKS,
Treasurer.

TREASURY DEPARTMENT,
TORONTO, 17th February, 1874.

ANNUAL REPORT

OF THE

Commissioner of Agriculture and Public Works,

FOR THE PROVINCE OF ONTARIO,

ON

PUBLIC WORKS,

FOR THE YEAR

1873.

Printed by Order of the Legislative Assembly.

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1874.

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REPORT

OF THE

Commissioner of Agriculture and Public Works

FOR THE

PROVINCE OF ONTARIO,

ON

PUBLIC WORKS,

FOR THE YEAR 1873.

To His Excellency the Honourable JOHN CRAWFORD, *Lieutenant Governor of the Province of Ontario, &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY:

In compliance with the "Act respecting the Public Works of Ontario," the following Report is presented, as a record of the transactions of this Department during the last year.

The Report of the Architect and Engineer gives the details of the operations connected with the erection of the several Public Buildings in course of construction, the additions, improvements and repairs to others, with general remarks respecting the expenditure, &c.

The Report of the Engineer in charge of Public Works, other than Public Buildings, explains in detail the works respecting the drainage of lands, improvements to navigation, and Free Grant Settlement surveys; and inspection of railways.

The usual statements of the Law Clerk and Accountant are appended, indicating the details of the expenditure, list of contracts, purchase and sale of lands, &c.

PUBLIC BUILDINGS.

Sundry improvements and repairs were made to the Government House, Parliament and Departmental Buildings, which are fully described in the report of the Architect and Engineer.

The construction of the new fence and roads, planting, and the removal of the unsightly wooden sheds, have materially improved the general appearance of the grounds, being a strong contrast to the former delapidated aspect of the buildings, fences, &c.

The progress of the works at the Central Prison has been considerably delayed, owing to the large quantity of additional work required, in the erection of new buildings, the extension of the boundary wall, railway tracks, &c., and the Architect and Engineer having reported to me, on the 15th of September last, "That the establishment and rate of progress at and in the Central Prison works, were not such as to ensure the completion of the same, on or before the 15th day of December next," and as the time for completing the building had expired on the 1st of July last, the work was taken out of the contractor's hands, and instructions were given to have the Prison finished at as early a date as possible; and from the progress of the several works since that time, I am satisfied that all diligence has been used in carrying out my instructions. According to the report of the Architect and Engineer, I find that the building will not be ready for occupation before the 1st of July next, the principal delay having been caused by the erection of the additional cells, and the re-construction of the walls and cells in the south wing, which were injured by the unusually severe storm on the 4th of December last.

The operations connected with the expenditure on improvements and repairs of other Public Buildings, are fully detailed in the report of the Architect and Engineer, and it is expected that the expenditure on capital account in connection with the same will soon be closed.

Public Works.

The expenditure on works connected with drainage in the Townships of Russell, Mosa, Dunwich, Ekfrid, part of Caradoc, Grey and Brooke, amounting to $90,304 59 is reported to be closed, and arrangements will shortly be made to reimburse the Government, in accordance with the terms of the Ontario Drainage Act, by assessment on the lands benefited.

The works in the Townships of Raleigh, East Tilbury, Moore, Sombra and West Nissouri, will soon be finished, and applications have been received for the construction of drainage works in East Williams, Portland and Camden, South Plantagenet, Delaware and Clarence, the total expenditure last year being $31,408.42.

One hundred and twenty acres of land have been cleared, and eighteen houses are now occupied by settlers in the Township of Ryerson. Six houses are partially built, and one has not yet been commenced, and the Engineer reports that, "the success of the settlement since the commencement of the works has been satisfactory." Details are also given in the report on surveys and inspections, the most important being an examination of the head waters of the Gull and Burnt rivers, the sources of the Otonabee and Trent rivers, forming what are termed the "Inland Waters," in that section of the Province.

The aid afforded by the Railway Acts passed by the Legislature, has materially assisted the several municipalities and companies, interested in the construction of railways, which are intended to develop the unsettled lands, and afford increased facilities for traffic, in the more settled portions of the Province.

The report on the several railways which have been constructed, and on others still in progress, sufficiently indicates the great benefit which is likely to result from

their construction, extended as those railroads will be, when fully completed, over those parts of the country which require the most assistance, and which it was the intention of the Legislature should be benefited.

EXPENDITURE.

The increase of expenditure, as compared with 1872. has been principally caused by the outlay on the Central Prison Works, which, it is expected, will be completed before the 1st of July next. The expenditure on capital account on the several public buildings and works will be closed as rapidly as circumstances will permit, so that the future annual outlay may be reduced to the mere cost of maintenance and repairs.

Respectfully submitted,
ARCHIBALD McKELLAR,
Commissioner.

Department of Public Works, Ontario,
Toronto, February, 1874.

REPORT

OF THE

ARCHITECT AND ENGINEER.

DEPARTMENT OF PUBLIC WORKS, ONTARIO.
TORONTO, January 20th, 1874.

Hon. ARCHIBALD McKELLAR,
Commissioner of Public Works,
Ontario.

SIR,—I have the honour to submit the following annual Report :—

GOVERNMENT HOUSE.

The whole of the wood and iron work on the outside of the building was painted, and the cornices, porches, &c., sanded, at a cost of $510.20. The galvanized iron roof and gutters were also repaired.

In addition to the improvements reported last year, for heating the conservatory, it was found necessary to fit up another corrugated fire-box boiler, No. 16, in place of the pipe boiler, and to increase the quantity of circulating pipe at the east end of the building: the cost has been $1,211 45, being in excess of the appropriation; the quantity of pipe required being greater than was expected.

The forcing house has been built in the grounds to the west of the conservatory, on a similar principle to one erected by J. M. Currier, Esq., M. P., Ottawa, with the addition of a rose-bed at one side, which will increase the expense beyond the appropriation. The cost of the building, which is not yet completed, will be about $1,700, and the heating apparatus, including freight and fittings, &c., about $1,100 more, making in all $2,800. The heating apparatus, Truss's patent, was procured from England, and has been put together without the aid of a plumber, the joints of the pipes being covered with Indian rubber bands and iron cramps; the boiler also is in one piece without a joint, so that there is no likelihood of any expenditure being required for repairs; and as far as it has been tested, there are no leaks, and the whole work is satisfactory.

As the former Lieutenant-Governor owned most of the plants, which were removed to his own house, a considerable expenditure was necessary to replace them. This, with the reasons given above, will account for the over-expenditure.

Some repairs will be required to the internal wood-work of the building, and the drawing room, conservatory, and other rooms will have to be painted.

Additional furniture, planting, &c., will also be required, for which provision has been made in the estimates for 1874.

PARLIAMENT AND DEPARTMENTAL BUILDINGS.

The alterations in connection with these buildings have been far more extensive than contemplated, and will largely exceed the appropriation.

The principal excess has been in the items for altering wood and coal sheds, and for the fencing; the appropriations for these purposes being in all $2,000.

In addition to the removal of the old wood and coal sheds, and the building of a brick shed at the east wing, a new brick kitchen and scullery have been built, connected with the dining rooms at the northern end, and a large room for the convenience of the members, with new wash rooms, &c., have also been constructed adjoining the dining room. The members' private committee room, which had been used as a passage for some years, is now fitted up for the purpose, as originally intended.

The expenditure will, I trust, be approved, when the greater convenience afforded, and the sanitary improvements are taken into consideration.

The picket fence round the grounds is also of a more substantial character than originally intended; but the improved appearance resulting from its construction, in place of the old post and rail, together with the construction of the roads, planting, &c., will justify the increased expenditure.

A further appropriation will be required to complete the improvements, also for the ordinary repairs.

CENTRAL PRISON TORONTO.

Operations During 1873.

During the winter the carpenter work of the workshops was continued; teams and labourers were also employed placing materials on the ground. The contractors for the machinery and iron-work of the workshops continued their preparations for fitting up those buildings and the foundry, to comply with the conditions of the contract with the Canada Car and Manufacturing Company, "that from and after the first day of July, 1873, the company shall be entitled to use the same, in order to fit the same up for the purposes contemplated." These conditions have been fulfilled, as the company have occupied the workshops and foundry since the 1st of July last.

The out-door works were resumed early in April, and on Tuesday, the 15th, (one week earlier than last year), the brickwork on the arches of the cells in the south wing was commenced: several stone-cutters were also at work. For the week ending the 3rd of May, the returns show that there were 10 bricklayers, 16 stone-cutters, 10 carpenters, 25 labourers, 1 blacksmith, 2 teams and 1 cart, employed, on the average, each day. The number of workmen employed were gradually increased until September, when the returns were. 22 bricklayers, 19 stone-cutters, 10 masons, 15 carpenters, 51 labourers, 1 blacksmith, 2 teams and 9 carts, daily. But as I did not consider that the number employed would be sufficient to complete the buildings by the 1st of December last, the 1st of January having been assumed as the day on which the prison should be ready for occupation, I addressed a communication to the contractor on the 1st of September, requiring him to employ a stipulated number of workmen, but as he failed to comply with the requisition, I felt it to be my duty to report to you on the 15th of September, "that the establishment and rate of progress, at and in the Central Prison works were not such as to ensure the completion of the same on or before the 15th day of December next." According to instructions, I accompanied Mr. Scott, who was acting for the Hon Attorney-General, and Mr. Wagner, to the Central Prison, on the 18th of September, when the works were formally taken possession of, and handed over to Mr. Wagner, as superintendent, who has continued in charge to the present time.

On taking possession of the works Mr. Price was employed in make measurements of the work done by Mr. Elliott to the 18th of September last, but he has not yet reported.

The workmen employed by Mr. Elliott were continued, and as many in addition as could be obtained, and materials were purchased as required. As Mr. Elliott had made arrangements with certain parties for sundry sections of the work, those arrangements were continued with Mr. Melville for the carpenter work, Mr. Duckworth for plastering, Mr. Harding for plumbing, and Mr. O'Connor for painting, &c.

In addition to the above, agreements were made with Mr. Rennie to complete the slating, and Mr. Ringham for the tinsmith work, after due advertisement. Contracts for the supply of wood for burning bricks were also entered into with Messrs. West and Burns, and tenders have been recently received for supplying gravel and stone, to complete the roads, &c., according to the original contract.

Fourth Tier of Cells, &c.

As the Government decided on the construction of the 4th tier of cells in each wing, affording accommodation for 84 additional prisoners, making in all 336 separate cells, for which an appropriation had been made in the estimates for 1873, directions were given on the 4th of October to Mr. Wagner, the Superintendent, to have them constructed in a similar manner to the other cells, with cut stone jambs, &c., and that artificial flagging should be substituted for stone for the floors of the wings. Additional works, as required by the Canada Car and Manufacturing Company, were also ordered.

Completion of Buildings.

These additional works, together with the damage caused by the storm of the 4th o December last, delayed the completion of the building beyond the expected time, and taking into consideration that the west boundary brick wall, which was blown down by the storm, cannot be rebuilt until the spring and that a large portion of the outside work cannot be finished until then, I do not consider that the Prison can be handed over as complete, and fit for occupation, until the 1st of July next. The workshops, as before stated, have been occupied by the Canada Car and Manufacturing Company since the 1st of July last, and the machinery was completed on the 1st of October last, with the exception of some additional shafting, pullies, &c., which were required by the company and supplied by the contractors.

The delay in commencing and continuing the works under Mr. Elliott's contract, was fully explained in former reports, and need not be recapitulated.

Water Supply.

The work in connection with the water supply at the engine-house, was carried out by the contractors, Messrs. Dickey, Neil & Co. and R. Dinnis & Co. in a satisfactory manner, as reported from time to time. The engines at the pumping engine-house were also repaired, and the whole is now in thorough working order. As the supply of water to the Central Prison will certainly be double the quantity required for the Lunatic Asylum, the larger engine will no doubt be continued to be used for the purpose, and in order not to interfere with the supply to the Lunatic Asylum, I would recommend that the pipe to the Immigrant Sheds should be disconnected from the Asylum supply and attached to that of the Prison.

When this arrangement is made, the supply to the Lunatic Asylum would not be interfered with, and the smaller engine can be continued for that service.

The engines and pumps are so connected, that in case of accident to one of the engines, the other may be used for both supplies, until the necessary repairs could be made.

The new supply pipe is extended into the Lake four hundred feet, the end of the pipe being protected by strong cribwork, twenty feet square, loaded with stone and sunk in six feet of water, at the lowest water level. The pipe is of cast-iron, nine inches in diameter, constructed with moveable joints, and the water is discharged into a well built of brick laid and plastered with water lime, from this well a suction pipe, also nine inches in diameter, extends to the old brick well inside the engine-house, under the pumping engines. The pipes in the outer well being provided with valves, the water can be shut off, and the well cleaned out when required.

The old supply pipe, five inches in diameter, has not been interfered with, and is still connected with the old brick well; this pipe being also provided with a valve to shut off the water during stormy weather, as the best water is procured from the new pipe, which has been extended 200 feet farther into the Lake, and in four feet greater depth of water. The new pipe, being nine inches in diameter, will be more than sufficient to supply the Central Prison pipe four inches in diameter, and the Asylum pipe two and three-quarter inches, and unless there are much greater additions to the Central Prison or the Lunatic Asylum, this supply should be sufficient for some years.

The Canada Car and Manufacturing Company recently applied for a daily supply of water to their own buildings, from the Central Prison pipes, on which I reported, and the report was referred to the Inspector of Prisons, as it was a matter connected with future maintenance.

The total cost in connection with this work was $6,178 46, being $1,321 54 less than the appropriation; the cost of repairs to the engines has been $1,946 28, the whole of which has been charged to the Central Prison, though a portion, which included the repairs to the smaller engine, should have been charged to the Lunatic Asylum. The salaries of the assistant engineer, John Hoozack, $45-, for thirteen months, and the engineer recently appointed to the Central Prison, James Clarkson, $123 33, has also been charged to the Central Prison appropriation. As these salaries will be included in maintenance this year, any farther expenditure on account of such unprovided expenditure will be avoided.

Boundary Wall and Grounds.

As the arrangements made with the Canada Car and Manufacturing Company required a much greater yard space, the boundary wall had to be extended to a much greater distance than reported last year, but as the material was changed from stone to brick, on the recommendation of the Inspector of Prisons, &c., the appropriation for extending the stone wall, $25,206, and the amount included in Mr. Elliott's tender, $15,121, making in all $40,327, will be more than sufficient to meet the cost of constructing the brick boundary wall and wooden fence. The following items will explain the particulars of the extension: the original stone boundary wall was intended to be 22 feet in height, and 2 feet in thickness, and the brick wall has been built 20 feet in height, and 18 inches in thickness, the wooden fence 15 feet in height.

Land taken from Lunatic Asylum	21 24	acres.
Do purchased from Dominion Government, on Strachan Avenue	1 58	"
Total	22 82	"
Area of ground contained within brick wall as at present built	7 15	"
Do. within wooden fence	2 65	"
Total	9 80	"
Ten acres nearly.		
Length of brick wall as at present built	1,783	feet.
Do. wooden fence do.	962	"
Area of ground contained within stone wall, according to original plan	3, 43	acres.
Length of stone wall do.	1,127	feet.

On the 17th of July last, a written order was given to Mr. Elliott to build the boundary wall of brick instead of stone, according to certain altered plans and specifications, and certain prices agreed on at the time, and a considerable portion was built by him before the work was taken off his hands.

Owing to frequent changes in the extension of the buildings connected with the contract of the Canada Car and Manufacturing Company, the brick wall was extended 32 feet farther to the west, than the line shewn on the altered plan, to be attached to the Canada Car and Manufacturing Company's contract.

Tenders were received from different parties for the construction of the wooden fence, enclosing lumber yard; that of R. Dinnis & Co. being the lowest was accepted, the amount being $1,400, and additional work $52 60, making a total of $1,452 60. The construction of the fence round the Prison grounds was postponed until spring.

A separate agreement was also made with Mr. Lamb for supplying patent artificial stone for the coping of the boundary wall, at $1 20 per lineal foot, and for the buttress caps at $2 25 each, on which $2,210 have been paid. The agreement also includes the artificial bagging for the wings, at 20 cents per superficial foot.

Additional Schedule Prices.

After the estimates for 1873 were prepared and presented to the Legislature, the late contractor, Mr. Elliott, in March, 1873, claimed additional schedule prices for additional work done, and to be done as detailed in the estimates.

After sundry communications, the claims were referred to the decision of Joseph Sheard, Esq., Architect, Toronto, by an agreement, July 3rd, 1873, and the award was made some time afterwards, in substance as follows:—

The price of the foundry to be $14,665 00, from which the cost of the warehouse should be deducted, viz., $6,581 00, the balance being $8,084 00; that $10 per square should be allowed for American slate, twenty per cent above schedule prices for brickwork of 84 additional cells, and one dollar and forty cents per cubic foot additional for the cut stone jambs, &c., of cells; also $40 per thousand for long timbers in the south workshop. No additional schedule price was allowed for work already done.

By the terms of the above mentioned agreement, the price of the brickwork of the altered boundary wall was to be $15 per thousand, the cost of the stone foundations $5 50 per cubic yard, the excavation 25 cents, and the filling 15 cents. per cubic yard; the whole to be completed on the 1st of October, 1873.

To this agreement the signatures of the sureties to Mr. Elliott's contract were appended. The award did not decide as to the claim made for additions to the schedule prices on other items, such as filling, rubble masonry, flagging, iron-work and glazing.

Expenditure.

The expenditure on account of the Central Prison works last year was $235,232 76, according to the Public Accounts, making the total expenditure to the 31st December, 1873, $326,816 67. To this should be added the amount estimated to complete the buildings, viz., $50,000, not including any further amount that may be required for furniture, or additional buildings.

The sum of $50,000 includes the cost of the increased price on heating apparatus, brick, cut stone, and windows, in constructing 84 additional cells, additional work on foundry, machinery, area walls, filling round buildings, lighting and heating the workshops, damage by storm, for all of which no estimate nor appropriation had been made; also for the construction of roads and fences, for which a partial appropriation was made.

Any claims that the late contractor, Mr. Elliott, may have on account of Mr. Sheard's award as to additional schedule prices, or for any drawback on the contract, are not included in the above statement, as such claims cannot be determined until the works are fully completed, and the total cost ascertained.

Contract for Additional Buildings, &c.

In the communication of the Inspector of Prisons, &c., recommending the acceptance of the offer of the Canada Car and Manufacturing Company, reference is made to a supposed under-estimate by me As the matter was explained to you in a report at the time, the report should be inserted here in explanation, particularly as the communication is published in the Inspector's Annual Report:—

April 4th, 1873.

Sir,—I have the honour to report in reference to the communication of the Inspector of Asylums, Prisons, &c., respecting the proposed reduction of the buildings and fittings required by the contract with the Canada Car Company at the Central Prison, Toronto, that definite arrangements cannot be made for carrying out the recommendations contained in the communication until an opportunity is afforded of having a conference with the contractor, Mr. Elliott, who, I am informed, went last week to Quebec, on business, and has not yet returned.

The proposed reduction has been rendered necessary solely on account of the demand of the contractor for increased prices, beyond those mentioned in the schedule attached to the contract, and not on account of any under-estimate, as stated in the communication of the Inspector of Asylums, Prisons, &c.

The representative of the Canada Car Company furnished drawings and detailed estimates of the buildings and fittings required; and a comparison of those drawings and estimates with those prepared by the Department will show that those requirements have been fully provided for and explained.

The measurements of the proposed additional buildings have been carefully compared with those made by the contractor, and there is no dispute on any point, except as to additional prices, which being a legal question, has been referred to the Hon. Attorney-General for his opinion.

Until this important question is decided, it would be injudicious and inadvisable to make any further arrangements with the representative of the Canada Car Company, or to give any orders to the contractor for proceeding with the additional buildings, fittings, &c.

According to the recommendations in the communication of the Inspector, it appears that the representative of the Canada Car Company requires two frame buildings beyond what was originally stated, and proposes to make a reduction in other buildings, in accordance with detailed statements, with the understanding that the sum of $23,958 00 should be paid to the company for the proper completion of the work, according to detailed specifications, to be approved, "the company undertaking to perform all the work and furnish the articles named in the statement, without further liabilities incurred."

In the communication of the Inspector it is further stated, "that the sum of $24,500 00 would be left to complete the prison in all respects and it should be ample to cover all increased cost."

Until the legal question has been settled, and a proper understanding arrived at with the contractor, as to the cost of the remaining additional work, it would be impossible to state whether the above amount, $24,500 00, would be sufficient to complete the prison.

I have therefore to recommend that the contract should be submitted to the Hon. Attorney-General, for his opinion as to the liability of the contractor to construct the additional buildings at the schedule prices attached to the contract, and also respecting his claim for advanced prices on additional work already done, amounting to the sum of $4,538 52 beyond the schedule, as explained in my report dated March 14th, which amount would have to be provided for in case the decision should be in favour of the contractor.

I have the honour to remain,

Your obedient servant,

(Signed) KIVAS TULLY,
Architect & Engineer.

Hon. A. McKellar,
Commissioner of Public Works,
Toronto.

As the offer of the Canada Car and Manufacturing Company, dated March 29th, 1873, addressed to the Inspector of Prisons, &c., and recommended as stated above, proposed to do certain works to the extent of $25,260 00, for the sum of $23,958 00, the offer having been accepted, an agreement was entered into with the company, and an additional amount having been claimed by the company for work done beyond, but connected with the contract, I recommended that the services of an expert should be secured, for the purpose of making measurements, and examining the accounts submitted by the company; and Mr. H. Monro, junr., was appointed by you for that purpose, and he is now engaged making the necessary examinations, and will be soon in a position to report fully on the contract and additional works.

A further amount has also been claimed by the Canada Car and Manufacturing Company, in a communication addressed to the Inspector of Prisons, &c., and referred by the latter to the Department, on which I reported, that, as the work was connected with the supply of machinery to the workshops, for which, a further appropriation would be required, the communication should be referred back to the Inspector of Prisons, &c., for his recommendation, if approved, and as no further communication has been received from the Inspector of Prisons, &c., nothing further has been done, with the exception of the examination of the accounts by Mr. Monro, who will also report on the claim.

In the communication of the Canada Car and Manufacturing Company, it is asserted that there would be a saving of $28,815 00, principally in the substitution of brick for stone in the construction of the boundary wall, but as the boundary wall was extended, as explained in this report, and a large amount has been expended in the construction of the "balloon sheds," and other works, an analysis of the expenditure as detailed in the Public Account will demonstrate, that there has been a considerable additional expenditure, and that further

amounts have been claimed recently, for which there could not have been appropriations, as the changes and additions have been so numerous, that it was quite impossible to have foreseen the results.

As a careful analysis of the whole expenditure on account of the Central Prison will soon be completed, it would be an easy matter to disprove the statement as to any under-estimate, and I can confidently leave the investigation in the hands of any parties consulting the Public Accounts.

With reference to the statement in the annual report of the Inspector of Asylums, Prisons, &c., for 1872-3, page 65, that the additional cost of 84 cells would only be $210 per prisoner; this calculation in my opinion has not been fairly made. In the first place, the cost of the workshops, yard space, &c., is added to that of the main building, and is included in the calculation, making in all $1248 for each prisoner. Whereas the cost of the main building, and wings should alone be taken, otherwise one-fourth the cost of the workshops, yard space, &c., should be added to the expense of constructing the 84 cells. As it may create a wrong impression, I have prepared an estimate which, in my opinion, would be correct.

Cost of 252 cells:

Contract for main building and wings, steam heating, water supply, roads, ashpits, and drains	$83,773 00
Additional foundations, filling, &c.	6,537 80
Iron cell doors, locks, &c.	11,333 44
Total	101,644 24

$403 30 for each prisoner.

Cost of 84 cells:

Appropriation for same	$17,662 00
44 circular windows at $40	1,760 00
Additional on brickwork	1,215 00
do. pipe for steam heating	1,000 00
Total	21,637 00

$257 58 for each prisoner.

According to the calculation of the Inspector of Prisons, &c., the difference would be $1038 00, for each prisoner, whereas according to my calculation, which I consider is proper, the difference would only be $145 72, not 50 per cent less than the cost in the main building.

I would also remark, in reference to the statement of the Inspector of Prisons, &c., that "the proposed method of fastening cell doors and locks, being in his opinion inadequate," and the substitution of "solid jambs of cut stone instead of mere blocks, for the fixture of locks and hinges," that the plans of the Central Prison were prepared under instructions given by the Inspector of Prisons, &c., as required by the Central Prison Act, and his approval in writing has been given on all the plans and specifications, including the detailed plan of the cell doors, with the lock shown on it. The plans were also in accordance with the details of the Detroit House of Correction, the cell doors having only brick jambs, the cell doors of the Toronto Gaol also have only brick jambs, and both those Prisons are considered by the authorities adequate for the purpose.

The construction of cut stone jambs increases the security, and I was in favour of the alteration as recommended, but I do object to the manner of reporting the change, which implies a reflection on my experience in such matters, the inference being that the original plans were defective in this respect.

With respect to the construction of a separate building for the purposes of an Hospital, I quite concur in the recommendation of the Inspector of Prisons, &c., having always objected to the arragement of having a Hospital in the main building.

As the recommendations of the Inspector were not received by me before the estimates for 1873 were prepared, though I frequently applied for them, no appropriation has been

made for the construction of the proposed Hospital, in fact it is difficult to select a site inside the boundary wall, as the space is now crowded with buildings. If the recommendation is approved, the cost can be ascertained, and submitted in a supplementary estimate.

When the weather permits, the roads and fences can be constructed, and the laundry, coal shed, latrines, boundary wall, and other outside work completed. During the winter, the carpenter work, painting, steam heating, and other works will be carried on, the plastering being now finished, and the wings enclosed. But with all the expedition that can be used, I am still of opinion as I before stated, and the Superintendent, Mr. Wagner, agrees with me, that the Prison works cannot be fully completed, and fit for occupation before the 1st of July next.

Owing to the increased height of the wings, in consequence of the construction of the fourth tier of cells, it will be extremely difficult to heat the wings, the height being over 40 feet, and notwithstanding the heating pipes are increased 2000 lineal feet in each wing, the result will be doubtful unless a fan is constructed for forcing the air into each wing, as already reported to you.

LONDON LUNATIC AND IDIOT ASYLUMS.

As the control of the expenditure, on account of construction, &c., was transferred to the Inspector of Asylums, Prisons, &c., at his request, I am unable to give any information as to the results of the operations during last year. The plans and specifications of the cottages for attendants, prepared in this Department in 1872, were also handed to the Inspector of Asylums, &c., on application. According to your instructions on the 18th of December last, I resumed the control, and on inspecting the work, I found that it was of great importance to the Institution, that the water-closets should be completed without delay; with your approval, I gave the necessary instructions to the clerk of the works Mr. Holden, who had been in charge during the season, to use every means to finish the plumbing and other work, and arrangements were made for the payment of the accounts, when presented. The efficiency of the new sewer which was constructed last year can only be tested by experience, the fall of one inch in seventeen feet, being in my opinion insufficient for the purpose, without a larger supply of water is passed through the sewer than there can be at present, and the surface water should not be permitted to pass through any of the sewers, the soil being of a sandy nature, would soon choke them and render them useless.

The cottages for the attendants which have been built opposite the Asylum gate, on the Governor's Road, were completed by the contractors, Messrs. Dodd and Johnston, with some trifling exceptions which were ordered to be remedied, and the buildings were directed to be handed over to the Superintendent. The cottages for the chronic insane, the site of which is on the north side of the road leading to the farm buildings, have not yet been completed, and as the brickwork is exposed to the frost, I fear that some damage will be done to the walls during the winter. The clerk of the works has received instructions to cover the walls and to protect the buildings as much as possible from the frost.

On the 30th of October, I examined the condition of the heating apparatus at the Idiot Asylum, with H. J. Ruttan, Esq., who had undertaken to heat and ventilate the building, and at his suggestion certain improvements were ordered, which have since been completed, and the clerk of the works reported on the 17th inst. that "the heat inside the corridors was all that could be desired," and that "if proper care is taken all future difficulty will be at an end." On inquiry respecting the want of draught in the flue from the hot water boiler and kitchen, I ascertained that the flue had been choked up with soot near the top of the chimney, and this was the sole cause of complaint, as both the hot water boiler and the kitchen stove, have drawn well since the flue was cleaned, and both were in good order when I inspected the building.

In last year's report, I prepared a comparative statement of the statistics of mortality at the Toronto, Rockwood, London, Malden and Orillia Lunatic Asylums, showing that the percentage of deaths at the London Asylum was less than any of the others, the annual average percentage being 5·90 at Toronto, 7·05 at Rockwood, 4·10 at London, 9·01 at Malden, and 4·16 at Orillia. Rockwood having been corrected in the sessional papers, No. 58, as quoted above, the statement as published in the annual report being incorrect, though they were taken from the reports of the Inspector of Asylums, &c., page 39, 1869-70, 67 deaths; page 80, 1870-

71, 89 deaths; but on examining the reports, when the Medical Superintendent, Dr. Dickison, drew my attention to the discrepancy, I found that they were the totals for Ontario patients for two or three years; and on an ordinary examination the results would appear as I have stated. The sanitary condition of Rockwood has very much improved, no doubt owing to the late changes in heating and ventilation, which the Medical Superintendent has succeeded in accomplishing after reiterated entreaties, the rate of mortality being only 3·09 for Rockwood, whilst those of Toronto and London are 7·82 and 8·02 respectively, the numbers being as follows:—Rockwood, 359 patients, 11 deaths; Toronto, 626 patients, 49 deaths; and London, 520 patients, 43 deaths; the sanitary condition of the latter, judging by the percentage of deaths, being the greatest of any Asylum in the Province. This result has been attributed to bad ventilation and drainage, but a careful examination will probably prove that neglect of internal supervision, and the drain recently constructed to the east well, have more to do with the matter than anything else.

DEAF AND DUMB INSTITUTE, BELLEVILLE.

The plan and specification for the proposed dining-room for the teachers, was considered to be inadequate for the purpose, and on the recommendation of the Inspector of Asylums, &c., the pupils' dining-hall was extended about 30 feet to the east, with an entrance on both floors to the main building, two class-rooms having been built over the extension of the dining-room. The cost of this alteration more than doubled the amount of the appropriation, and in order to prevent an over expenditure, the construction of the gymnasium and other work was postponed.

The alterations to the drains and water-closets, were made under the superintendence of Mr. Dalgleish, the former clerk of the works, and the improvements will, I consider, be found to be permanent and satisfactory

Additional coils were constructed in the upper storeys of the Institute, and connected with the steam heating apparatus, as additional accommodation was required, in consequence of the great increase in the number of pupils.

An auxiliary steam-pump was placed in the engine-house on the bay shore, but on trial it was found not to be of sufficient power for fire purposes; it will be replaced by one of a larger capacity during the summer, as it is not advisable to make any change at present.

BLIND INSTITUTE, BRANTFORD.

The control of the construction at this building having been transferred to the Inspector of Asylums, &c., I am unable to state what had been done previous to the resumption of the control by your direction on the 18th of December last

The plans and specifications of the Bursar's cottage were handed to the Inspector of Asylums, &c., who will no doubt explain the operations during the time the expenditure was under his control and management.

On inspecting the work in December, I found that the Bursar's cottage was nearly completed, and as there was no arrangement for the supply of gas or water, according to your directions, orders were given to the contractor to lay pipes from the mains in the building to the cottage. Gas-fittings had to be provided, also grates for the fire-places, the total cost being $3,394 82.

The additions, as above stated, will account for the excess of expenditure of $394 82 beyond the appropriation.

It may be necessary to make provision in next year's estimates, for the construction of open troughs in the cesspools under the outside closets, to be supplied with water, and connected with the main sewer in a similar manner to that on trial at Belleville, which, if successful, will be a great and economical improvement in the construction of outside closets.

Toronto Lunatic Asylum.

There was some delay in reference to the construction of the proposed Laundry Building, owing to the alteration in the recommendation of the Inspector of Asylums, &c., who reported that a new building should be erected for the purpose, the old one to be

used by the Bursar for Asylum stores. But this arrangement was altered, and at the end of June, directions were received to prepare plans for an addition to the old building, and in September the contract was let to Mr. John Damp, for the sum of $9,139 00; and the additional work for filling, drains, &c., amounted to $655 75, making a total of $9,794 75, the appropriation being $10,000. The building was completed and given up by the contractor in December. The barn and stables were constructed on the Asylum farm, near the western boundary of the City, the contract having been let to Mr. Robert Kennedy, for the sum of $5,622 00, additional works being $44 75, total $5,666 75. The work was completed in October, and on inspection was found to be satisfactory. As the heating apparatus, and fittings for the Laundry addition, were not included in the appropriation last year, provision should be made for them in the estimates for 1874.

Reformatory, Penetanguishene.

The works connected with construction at this building, having been placed under the control of the Inspector of Asylums, Prisons, &c., I am unable to report anything in connection with the same, not having visited the Prison during the year.

Agricultural College, Guelph.

According to instructions, I went to Guelph on the 20th of August, for the purpose of measuring the building on Mr. Stone's farm, and making arrangements for constructing additions to the same, for the accommodation of pupils, and as a residence for the Principal, Professor McCandless, recently appointed. Plans and specifications were prepared, indicating the alterations that would be necessary, and after receiving tenders from sundry builders in Guelph, the contract was let to Mr. John Barclay, at $2,533 00; and the tender of Mr. Keith, Toronto, for the plumbing work and heating apparatus, was accepted for the sum of $3,400 00. The work is not yet completed, as several alterations had to be made to suit further arrangements, but it is expected that the whole of the work will be finished, before the end of the present month.

School of Science, Toronto.

There has been no expenditure beyond the ordinary repairs required for this building. The over expenditure was caused by the expense incurred in binding several valuable volumes of patents which were sent from England, which will be an important addition to those already received.

The Principal, Dr. Ellis, will, no doubt, explain the matter more fully in detail.

Normal and Model Schools.

The heating apparatus connected with these buildings, being in an unsatisfactory condition, instructions were given to Mr. Keith, plumber, to examine the same, and after due inspection, he recommended sundry alterations which have been made under the superintendence of Mr. Price, the Clerk of the Works, who had charge of the enlargement of the Model Schools, and repairs. The changes made, have been very satisfactory in their operation, but in order to place the heating arrangements of those buildings in complete working order, it will be necessary to construct a central boiler house, for which plans have been prepared. When the boiler house is constructed, it is expected, that three boilers will be sufficient to heat all the buildings, instead of five as at present, and the boilers under the front and rear buildings will be removed, as this arrangement is to be condemned as dangerous, even under the most favourable circumstances.

Court House, &c., Sault Ste, Marie.

The repairs and improvements required at this building, were placed by your instructions, under the superintendence of Mr. H. Munro, junr., and on inspection it was

found that the fastenings of the cell doors were very unsafe, the fastenings were removed and spring locks substituted, the work having been done by Mr. Wilkie of Toronto, who was sent to Sault Ste. Marie for the purpose.

A new wood shed was constructed, affording shelter for the prisoners, when working in wet weather.

The well in front of the Court House was deepened about 10 feet, but as the water is of a bad quality, it will be necessary to convey the water from Mr. Wilson's spring, as reported last year. Levels were taken by Mr. Simpson, P. L. S., and the spring was found to be 10 feet higher, than the ground floor of the Court House, so there will be no difficulty in conveying the water into the Building, as proposed, and I would recommend a further appropriation for the purpose, the former appropriation having been required for locks, for the security of the prisoners.

The tin roof and tanks were repaired, also the pipes which were injured by the frost.

Sundry improvements including a house for the gaoler, are recommended by Mr. Munro, but as the expenditure last year exceeded the appropriation, and a large amount will be required for this year, further improvements will have to be deferred for the present.

Registry Oefices, Parry Sound and Thunder Bay.

Sundry work was done at these Registry Offices, including painting, repairs, &c., the greater portion of the expenditure having been made at Thunder Bay. A fence was constructed, forming a yard in front of the lock-up, at Prince Arthur's Landing, as recommended by Mr. Van Norman, the Stipendary Magistrate, who made the necessary arrangements for the same, and superintended the work.

As the population at Prince Arthur's Landing, has increased considerably during the last two years, it will be necessary to construct a larger building for gaol purposes, in front of the present Lock-up, to which it would be connected. The plans were prepared in reference to future additions, so that the present Lock-up would be available for the purpose of classification. If approved, a further appropriation will be required, also for repairs to Registry Office.

Lock-up, Silver Islet.

By Order in Council, the appropriation for a Lock-up at Bruce Mines was transferred to Silver Islet, Thunder Bay, the land having been given by the Silver Islet Mining Company. The Lock-up which is similar in construction to that at Prince Arthur's Landing, was erected under Mr. Munro's directions, the wood and iron work having been sent from Sarnia; the total cost has been $2,268 79.

A fence to enclose a yard, and some painting, will be required this year.

Inebriate Asylum, Hamilton.

An appropriation of $100,000 having been made by the Legislature for the construction of an Inebriate Asylum, to be erected at Hamilton, as my time was fully occupied with the Central Prison, and other works, the services of Mr. Kauffmann, Architect, Toronto, were secured under your directions, and he was instructed to prepare plans and specifications for the proposed building. Two sets of plans were drawn and submitted for tender, according to public advertisement, but as the amount of the lowest tender would have been beyond the appropriation, a third plan was prepared, leaving out the rear building, and providing for the kitchen, engine-room, &c., in the basement of the front building. Arrangements were made with Mr. Donald Nicholson, builder, Hamilton, to construct the building according to the altered plan for the sum of $69,225.00, to be completed on the 1st of July, 1875, as his tender was the lowest, for the larger plans. The building will be about 180 feet in length, and 50 feet in width, not including projections, and three storeys in height, beside the basement and mansard, the latter not to be fitted up at present. The basement storey has already been built of stone, but the superstructure will be of brick, with stone dressings to the windows, &c.

The site was purchased from the Hon. Isaac Buchanan, Messrs. Moore and Davis, and Mrs. Gourley, and has a considerable elevation above the City of Hamilton, but from enquiries in the neighbourhood, and an examination of the site, there will be some difficulty in procuring the requisite supply of water for the Asylum.

NORMAL SCHOOL, OTTAWA.

According to your instructions, and for the reasons given in reference to the Inebriate Asylum plans, the services of Mr. W. R. Strickland, Architect, Toronto, were secured, and after due consultation, with the Deputy Superintendent of Education, and other officers at the Normal School, Toronto, two sets of plans were prepared, and submitted for competition, after due advertisement, but, as in the case of the Inebriate Asylum, the tenders were much higher than the appropriation for buildings, viz., $80,000 00, and after submitting the question to the Chief Superintendent of Education, he advised that the plans should be referred to the decision of Dr. Sangster, formerly Head Master of the Normal School, Toronto, who made a very full report on the same, and thereupon a third set of plans were drawn by Mr. Strickland, under the directions of Dr. Sangster, which were fully approved by him and the Chief Superintendent of Education. These plans were again submitted to tender, the Builders who sent in the tenders for the first plans being duly notified. Several tenders were received, and are still under consideration, the amount of the lowest tender being higher than was expected.

Early in May last, I accompanied you to Ottawa, for the purpose of selecting a site for the proposed Normal School, and after inspecting several locations, the offer of the Committee of the City Council of four acres on the By estate was approved, the Government only to pay $16,000 00, any amount required beyond that sum, to be supplied by the City of Ottawa. The site is an excellent selection, being central, it can be easily drained, and supplied with water from the works now in process of construction.

The following description is by Mr. W. R. Strickland, the Architect:—

The buildings when erected in accordance with the plans now prepared, will be in the Norman style of architecture, and will consist of Normal and Model Schools, containing lecture rooms, school, class and gallery rooms, with necessary waiting rooms, laboratory apparatus, master and teachers' room, also library, depository and storerooms.

The Normal and Model Schools will be connected in the form of a T, the Normal School forming the front part facing the south-east towards Elgin street, and will have a frontage of 157 feet, the centre projecting both to the front and rear. This part of the building is for the accommodation of the Normal School students of both sexes, and will contain 3 large lecture rooms, two waiting rooms, with lavatories and cloak room off, library, depository, apparatus room and laboratory, also masters' rooms visitors' room, closets and janitor's room.

The Principal's lecture room, which will be 46 feet × 42 feet, will be situated on the ground floor opposite the principal entrance, and will have waiting rooms on both sides for either sex, and is calculated to contain 54 double desks for 104 students.

The entrance to the principal lecture room will communicate directly with the stairways leading to the first floor, upon which will be situated the Mathematical and Natural Science Lecture Rooms, with commodious laboratory opening off the latter, and apparatus room between the lecture rooms, communicating directly with them.

These lecture rooms will be 43 feet × 32 feet each, and will contain 40 double desks each. The library and depository will also be situated on this flat, as also the Masters' private rooms.

The lecture rooms will be situated in a central position, with approaches and entrance on either side, so that the several classes can be dismissed simultaneously, and pass from one room to the other, or to their respective waiting rooms, without meeting. This arrangement will also prevent the sexes from communicating with each other during intermission, without its coming under the notice of the masters.

Each lecture room will be well lighted and ventilated, and the desks and blackboard placed in the most favourable position with regard to the former.

The Model School will be 144 feet in length and 59 feet in width, with central projection,

and will be two storeys in height, the lower flat to be devoted to boys and the upper flat to girls. This part of the building will be connected with the main part, or Normal School proper, and will extend 144 feet to the rear, having Biddy Street on the Eastern side, and the Park on the Western side; the play sheds and yards to be situated at the northern end, where the entrance to the Model School will be placed.

Each flat will contain one large school assembly room, 56 feet × 38 feet, and 3 class rooms and 3 gallery rooms, each of the latter to accommodate 60 pupils, and the school-room 180.

The school is arranged upon the system of grading the pupils into divisions and sub-divisions or sections. Each sex to be divided into 3 divisions of 2 sections each, or 6 sections in all of each sex, so that each division will have its own class and gallery room, the school or assembly room to be common to all the divisions and to be used for assembling the school for roll-call, for prayers, and to be used as a class-room. In addition to the school and class-rooms, private rooms for Teachers, store-rooms, lavatories and cloak-rooms will also be provided.

The exterior of the buildings will be built with Gloucester stone in random, coursed or shoddy work, and Hull stone dressings.

The principal front will have centre and gabled projections, and flanking projections with grouped windows, relieved by label mouldings and pilasters, dressed arches and jambs. The front and ends will be further relieved by base, sill and string courses and corners in Hull stone.

The principal entrance will be from the south-east side, or front, and will have cut stone steps and landings leading to the entrance porch, the doorway being relieved by moulded arch and pilasters.

The students' entrances will be from the eastern and western ends.

The centre part of building will be carried up higher than the adjacent parts, and will be surmounted by a belfry; the flanking projections to be surmounted by ventilating turrets.

The roof will be ornamented by an iron cresting, as also the gables, belfry and turrets.

The Model School will be similar in appearance to the Normal School, but plainer.

The boiler room will be situated in a projecting basement outside the main walls, near the junction of the two buildings, so that the distributing point for the steam for heating will be as central as possible.

The whole building will be well lighted and ventilated, every lecture, class and gallery room to have ventilating flues.

The number of students which can be accommodated according to the plans, will be 75 of each sex. 150 in all; and the number of Model School pupils, according to the system of grading recommended by Dr. Sangster, 180 of each sex, 360 in all.

The rooms are calculated to afford a minimum of 300 cubic feet of air for each student, and 160 feet for each Model School pupil.

Departmental Buildings.

Fire-Proof Buildings for the Crown Lands.

Sketch plans were prepared in the Department, for a building to cost $125,000.00, but as this amount was reduced to $25,000.00, further plans were drawn, and are ready to be submitted to builders for tenders. Beyond the preparation of the plans, and inquiries respecting the cost of rolled iron girders, &c., nothing further was done, and there has been no expenditure on account of this appropriation.

Lock-Up, Nipissing District.

Plans and specifications for a Lock Up, to be erected at Mattawan, at the junction of the Mattawan and Ottawa Rivers, were prepared and forwarded to Mr. Bangs, merchant, of that place, requesting him to procure tenders for the erection of the building; but he was unable to do so, and as it was suggested that an additional Lock-Up would be required for the southern portion of the District,—the appropriation being only sufficient for the erection of one—it was deemed advisable to postpone the construction of the Lock-Up at

Mattawan, until a further appropriation was made for both, consequently there has been no expenditure for this service.

From the apparent difficulty in procuring tenders in that locality, it will probably be necessary to have the buildings constructed, in a similar manner to that pursued for the Thunder Bay District, under a competent superintendent.

Immigrant Sheds.

By your directions, plans and specifications were prepared for the erection of Immigrant Sheds at Gravenhurst and Rosseau, in the Muskoka District, and at Parry Sound, in the Parry Sound District: and tenders having been received by the agents in these localities, agreements were entered into with Neil Livingstone, Gravenhurst, for $483.00, Wm. J. Sirrett, Rosseau, for $470.00, and James Oastler, Parry Sound, for $395.00,—the difference in cost for the same plan of a frame building, being caused by the difficulty of procuring labour and material at Gravenhurst, and Rosseau, as compared with Parry Sound.

The work was reported to be satisfactorily done, by the Immigration agents in the several localities, and the buildings were considered suitable for the purpose.

Upper Canada College Buildings.

Beyond the preparation of the plans and specifications, for the enlargement of the centre building, as reported on, last year, nothing further was done, the plans being now in the possession of the Principal, G. R. R. Cockburn, Esq., M.A. Having ascertained that the public hall was likely to be used for sundry readings, &c., in December last, I considered it advisable to caution the Principal, as to the occupation of the hall by a greater number of pupils or others, beyond the requirements for the ordinary purposes of the College; and in consequence, supports were placed under the floor, which prevented the possibility of any accident.

REPAIRS.

Parliament and Departmental Buildings.

The expenditure on account of repairs for these buildings, has been greater than usual, in consequence of the improvements in providing additional accommodation, in the centre portion for the convenience of legislation. The whole of the matting in the halls of the centre building and east wing, had to be taken up and replaced with a more durable, but more expensive material. Considerable additions have been made to the furniture also, consequent on the improvements.

The several offices and buildings, being now abundantly supplied with furniture and furnishings, for the future, smaller amounts will be sufficient for these purposes annually.

The severe storm of the 4th of December last, did considerable damage to the buildings, two chimneys having been blown down, and others injured. The chimney at the Hon. The Speaker's room, in falling broke through the flat roof, and partly injured the ceiling of the lower room: the repairs were promptly made, and the buildings are now in good order. The roof of the centre building has also been repaired lately, and additional irons have been introduced to strengthen the principals supporting the roof, over the post office and reading-room. Considering that these buildings were erected in 1830, the limited accommodation afforded, and the annual amount required to keep them in repair, it will be necessary in a short time, to provide more extensive and secure edifices for the Legislature, and the convenience of the several Departments.

Normal School Buildings.

The repairs to these buildings were of the usual ordinary character, connected with the steam heating, drains, painting, &c., all of which were in the charge of Mr. Price, the Clerk of the Works, who was superintending other works connected with construction. The storm of the 4th of December last, blew down the boiler chimney on the west side of the Normal School, which broke through the roof and ceiling, and injured several

of the desks in the large class-room, on the upper floor—also the top of the boiler chimney of the front building. Arrangements were immediately made to have the chimneys rebuilt, and strengthened in such a manner, as to prevent as far as possible, any accident of the kind for the future.

The carpenter work, slating and plastering, and desks were repaired. The accident having occurred a short time before the vacation in December, there was but little inconvenience to the Teacher and students attending the School.

Osgoode Hall.

An appropriation of $1,500 having been made for repairs and furniture, which were much required, sundry work connected with repairs to the roof, drains, painting, &c., was done, and new matting and carpets were placed in the centre building, the work being under the superintendence of Mr. Price, who acted as Clerk of the Works here, as well as at other buildings.

General Remarks.

The amount expended during the year 1873, on Public Buildings was $472,859.50, and on Public Works $81,530.21; according to the Public Accounts, the appropriations for the former being $688,741.39, and the latter $135,977.42, making a total of $824,-718.81, for both purposes.

The above items do not include the expenditure for repairs or furniture, for the Government House, Parliament and Departmental Buildings, Normal School, or Osgoode Hall, for which separate appropriations were made, as contingencies connected with these buildings, separate from construction.

The total amount certified by me as architect and engineer was $284,184.12 for expenditure on Public Buildings, Public Works and repairs during the year. This amount does not include $81,227.13 for expenditure on the Central Prison Works, since the 18th of September last, which was certified by Mr. Wagner, the Superintendent, who was placed in charge of the work, under my directions, after it was taken out of the hands of the contractor.

As the recommendations for the additional buildings, and furniture, for the several Public Institutions belonging to the Province, were not received by me in time to have the same included in the estimates, which were forwarded to the Treasury Department, no provision has been made for them, and a separate statement will have to be prepared, and submitted before the estimates are printed.

The expenditure on account of the Province, on improvements and additions to the Reformatory, Penetanguishene, to the end of 1873, having reached the sum of $15,920-.98, and as the buildings and lands are now permanently occupied, the possession being virtually assumed by the Province, it is desirable that application should be made to the Dominion Government, for the formal transfer of the buildings and grounds, attached thereto, containing about 200 acres, as a portion of the assets of the Province, which will no doubt be claimed, when the division is made between the Provinces of Ontario, and Quebec.

As the Orillia Asylum building and grounds, have been admitted to be the property of the Province, this building would be available for any additional Public Institution that may be required, and no formal transfer will be required as previously reported.

The expenditure on account of improvements of the "Inland waters" of the River Trent, since 1868, has been $101,338.72, and as the control of the navigable portion above Lakefield has been assumed by the Province, with the consent of the Dominion Government, an application should be made for the formal transfer of the works referred to, and explained in the annual report for 1871, pages 7 and 33, on such terms as may be agreed on with the Dominion Government.

I have the honour to remain,

Your obedient servant,

KIVAS TULLY,

Architect and Engineer.

REPORT

OF

THE ENGINEER

ON

PUBLIC WORKS

OTHER THAN PUBLIC BUILDINGS.

DEPARTMENT OF PUBLIC WORKS, ONTARIO,
TORONTO, 22nd January, 1874.

Hon. A. McKELLAR,
Commissioner of Public Works.

SIR,—I have the honour to submit the following Report on the progress of construction, and the expenditure on the various works under my charge throughout the Province, during the year ending on the 31st December last :—

WASHAGO AND GRAVENHURST ROAD.

The appropriation for this work, amounting to $1,400, was expended in general maintenance of the road-bed; putting on of broken stone to a large extent, especially over the first two miles; gravelling and filling up two long crossways near the half-way house; and replacing some smaller crossways by embankments with broken stone coverings. The planking throughout is wearing well, and will last until after the extension of the railway to Gravenhurst, which I am informed there are strong hopes will be made before the close of the present year. Until then, as this road is the key to the whole of the Parry Sound and Muskoka free grant districts, it must be kept in good order, and therefore a similar appropriation will be required for this year's service. The amount expended in 1873 on these works was $1,392.91.

CHANNEL TO WHARF AT WASHAGO.

An appropriation of $1,000 was granted for the purpose of improving and straightening the channel leading to the wharf at Washago, but in consequence of the height of the water in Lake Simcoe last spring, the work was not required; and as the railway was opened to Washago in August, I thought it unadvisable to make any expenditure on the channel until the effect of the railway on the lake traffic at Washago could be seen, and therefore the entire sum remains for a re-vote in 1874.

SCUGOG NAVIGATION IMPROVEMENT.

An appropriation of $6,000 was made for this service in 1873, and the amount expended was $5,988.52. The large increase in the trade on this river since the opening

of the lock at Lindsay, and more especially since the completion of the Port Whitby and Port Perry Railway, has led each year to demands for additional improvements along the navigable channel so as to give facilities for a larger class of boats than those formerly used on these waters; and, with a view towards the attainment of this object, the works carried out in 1873 were directed. The expenditure in 1872 having been entirely on works of improvement in the channel of the river between Lindsay and Lake Scugog, it became necessary last year to improve the navigation through the Town of Lindsay below the lock, and at several sharp bends in the river between the town and Sturgeon Lake. Through the town the river-bed was dredged from the foot of the lock to the lower end of the railway wharves, and a timber cribwork breast wall, 250 feet in length, was built at a point a little below the lock, to prevent the lodging of timber and logs in their passage to the lock. After this work was completed, the dredge was moved down the river and employed in cutting away several projecting points at bends in the channel, where much inconvenience was occasioned to passing vessels in rounding the short turns, and much improvement has been effected by the work.

The details of the expenditure in 1873 are as follows:—

Dredging in river, from locks to railway wharves.....	$1,339 50
Dredging at bends in the river below Lindsay, 9,657 c. yds. removed at 30 cents.....	2,897 10
Removal of roots, snags, and debris, and other works...	300 16
Work and material in 250 feet of breast wall.....	982 53
Cost of superintendence and inspection.....	469 23
Total.....	$5,988 52

The lock-master reports the following transits through the locks during the period of navigation in 1873; 213 steamboats, 442 scows, loaded with lumber, logs, ties, and other kinds of timber, and 323 cribs of logs and boom timber. A large proportion of the logs are now moved on scows instead of in cribs, as scows are more easily hauled, and the transit in that way is found to be more economical.

The increasing trade on the Scugog River is also shown by the following return of freight, transported over the Port Whitby and Port Perry Railway, and which had been received from, or passed to the boats of the Scugog River navigation lines, viz.:—Ten million feet of lumber, 5,000 bundles of laths and pickets, 250,000 shingles, 18,000 railway ties, 500 cords of wood, 100 cords of tan-bark, 50 tons of coal, 420 barrels of salt, 150 barrels of whiskey, 500 barrels of apples, 60,000 lbs. of new furniture, 200,000 lbs. of general merchandize. Now that the front townships are getting so short of timber of any description, the importance of this route for cheap transit from the northern boundaries of the inland lakes north of Lindsay cannot be over-estimated, as timber in the townships touching on the northern shores of these lakes is abundant; and cheap means of transit will make every kind of wood produced there of marketable value in the front.

An appropriation of a further sum of $4,000 is desirable, to continue the improvements of the Scugog River in 1874.

Balsam River Works.

The sum of $2,931.38 was appropriated for the completion of these works in 1873, including the construction of an apron to the dam, and an improvement to the passage from the slide.

The contractor having failed to complete the works, the balance of which were chiefly under water below the foot of the lock, enclosed by defective cofferdams, and having worn out pumping engines, I determined to complete the works by a party of men employed under the immediate supervision of the Department, and to substitute hand-dredging for cofferdams and pumping, as the less costly arrangement. This has been carried out successfully, the works are now complete, and the lock is ready for the passage of boats.

An additional appropriation will be required to cover the cost of land purchased f the use of the lock, inclusive of about 58 acres of submerged lands above the dam, and a to remove some obstructions in the river above and below the lock, consisting mostly loose stones and gravel in the bed of the channel.

The expenditure on these works in 1873, has been as follows :

Payments for labour employed on works	$1974	21
" for timber, iron and other materials	882	86
" cost of inspection	67	25
Total	$2924	32

Pigeon Creek Improvement.

A sum of $5,000 was appropriated for this work in 1871 ; part of the work was d in that year and 1872, and a balance of $1849.35 was revoted for completing the serv in 1873. The work throughout consisted entirely of dredging, removing logs, snags, a sunken timber from the channel, and when the balance of the appropriation was expen in April and May last, a fair channel of 50 feet in width with 5 feet depth at low wa had been completed from the deep water at the entrance to the creek to the Village Omemee a short distance below the bridge ; the channel is not likely to be much u except for the transit of logs and other kinds of timber to the mills at Omemee. T expenditure in 1873 was as follows :

Payments on contract for dredging and removing sunken timber, &c.	$1711	97
Cost of inspection and superintendance	137	00
Total	$1848	97

Sydenham River Improvement.

An appropriation of $2000 was made for this work in 1871 for the purpose o moving fallen timber, sunken logs, timber and other debris from the bed of the r between Starkweather's and Dresden, and an addition of $500 was made to the orig sum in 1873.

The progress of the work was very slow owing to the want of energy of the tractor, and in 1872 the contract was transferred to one of his sureties, who is now repo as having it nearly completed.

The revote and appropriation in 1873 amounted to $1481.24, and payments have made during the year of $836.50, leaving $644.74 for a revote, which should be enc to cover the cost of completion.

Portage du Fort Bridge.

A sum of $16,000 was appropriated for the cost of the construction of this br across the Ottawa River at the Village of Portage du Fort. Of this sum the Dominion ernment contributed $8000, the Province of Quebec $4,000, and the Province of On $4,000, the payments in each case subject to the completion of a satisfactory and pe nent structure. An additional sum of $1000 was given by the Province of Ontario in for the construction of an approach to the bridge on the Ontario side of the Ottawa.

The bridge was completed early in the spring of 1873, and after examinatio $4000 appropriated for the purpose was paid over to the Receiver-General of the D nion, for the contractors. The approach, which required in its construction some t bridging, embankment built of stone, and rock excavation in side hill formation, was pleted in July last, after the height of the spring flood on the Ottawa at that locality subsided. The flood water in the river in 1873 was higher than it had been for years previously, and it was fortunate that the approach had not been constructed

the water was at its extreme height, as its level formed a most satisfactory guide for the surface of the roadway. The approach on the Quebec side of the river which had been completed before the high water of 1873, was in many parts submerged by the flood waters, and it became evident that those places would require to be raised.

The expenditure on this work was as follows :

Amount of pay-sheets of men employed	$615 28
Payments for materials and tools	308 21
Cost of inspection	74 50
Total	$997 99

Muskoss Falls Works.

Under the head of " Muskoka Falls, rock excavations, dam and sluices," an appropriation of $9000 was make in 1873 for the construction of works at the outlet to Lake Muskoka, for the purpose of regulating the level of the water of that lake, which in time of spring freshets does damage by its great rise, and in the fall of the year often gets so low as seriously to embarrass navigation. Surveys were made in July of the outlet at the Muskoss Falls, and of the three channels forming the outlets from the main body of Lake Muskoka to the smaller lake above the falls. These were all carefully examined ; the levels of high and low water taken at each, and sections taken by soundings so as to ascertain the best means of increasing the area of each channel, and as a consequence I determined to increase the area of the water way at Jenette's Narrows, by removing all the loose boulders in the bed of the channel at that point, in addition to the removal of a portion of the solid rock below water by blasting, and using the dredge for the removal of the stones. I also determined to remove a ledge of rock forming a barrier to a channel north of Burges' mills, so as to increase the flow of water in that direction ; and, at the Muskoss Falls, I determined the site for a stop-log dam, and for the excavation and removal of a quantity of rock south of the falls, so as to create a new channel in high water with an effective area larger than that of the original outlet.

The work was commenced in September by the removal of the dredge from the Muskoka River, on completion of the work there, to Jenette's Narrows, where the removal of loose and solid rock was at once commenced, and was carried on until the rising of the water in October made it desirable on grounds of economy to remove the work to the Muskoss At the latter place, arrangements were made for the construction of the dam, as well as the removal of the rock. Two parties were organised, one under a foreman framer, in charge of the timber work for the dam, and the other under the foreman of the dredge, in charge of the blasting and removal of the rock. To the close of December satisfactory progress had been made with the rock excavations, which still continue to be carried on, the winter being a favourable time for such work. The timber work for the construction of the dam has been stopped on account of the high state of the water this winter being unfavourable for the getting in of the foundation of the dam. However nearly all the timber is on hand, and framed for the purpose of putting together when required next summer, and a large quantity of the iron bolts and spikes are also on the ground.

The expenditure on these works has been as follows :—

Payments to men at work on timber and framing	$932 97
Do on timber delivered by contract	848 13
Do for iron bolts and materials for dam	227 10
Do to men at work blasting and removing rock	1651 68
Do for tools, powder and materials for rock excavation	354 67
Cost of surveys and inspection	420 11
Total	$4434 66

A revote of the balance of the appropriation will be necessary for the completion of these works.

Muskoka River Dredging.

An appropriation was made in 1873 for dredging some points forming very sh
bends in the river near Bracebridge; these bends, especially in low water, were found to ca
great inconvenience to the navigation of the river by the steamer *Nipissing*, and surv
were made in the winter of 1872-3 to ascertain the practicability of their removal
dredging. The results of these surveys having shewn that no rock existed to the dep
required for the navigation, the dredge was put to work, and the necessary excavati
were completed by the close of August. The men were then employed for a
days in removing snags from the bed of the river, after which the dredge was moved d
to near the entrance to the lake to complete the enlargement of a cut undertaken
previous winter by the lumbermen, but which was much too small for the service requi
After this work was completed the dredge and men were removed to Jenette's Narrow
stated in connection with the Muskoss Works.

The expenditure on the Muskoka River Dredging has been as follows :—

Payments to men employed on dredge	$1386 48
Do on tools, material and repairs	150 20
Cost of surveys and inspection	63 29
Total	$1599 98

Lock between Mary's and Fairy Lakes.

An appropriation of $20,000 was granted for this service in 1873, and surveys
made from which plans were prepared for a wooden lock similar in construction to
at Balsam river, but somewhat smaller in the area of the chamber.

The dimensions will be as follows :—

Length from head to foot of lock walls	162 feet.
Length from point to point of mitre sills	88 feet 6 inches.
Lift of lock	8 feet.
Minimum depth of water on mitre sills	4 feet.
Height of walls above foot of chamber	16 feet.

A channel 600 feet in length will be formed above the lock to connect it wit
river above Fetterly's dam. This will be formed partly by excavation and partly b
bankment, and will have cribwork protection walls, with stop logs at its upper e
that at any time it can be emptied for repairs, or for cleaning out.

The contract was let in June to Mr. John Carroll for the sum of $16,900, a
though very little was done during the summer, except clearing off the ground, he i
getting out all the timber required for the construction of the works.

The completion of this lock will open a navigation through Mary's Lake, 13
from Bracebridge, up the north branch of the Muskoka river into Fairy, Vernon an
insula lakes, around all of which there are now promising settlements, with a consid
per-centage of good lands interspersed amongst the high rocky hills. The Village of
ville is prettily located on the margin of one of these lakes, and will, therefore, be a
ble by this navigation.

The expenditure on this work in 1873 has been as follows :—

Payments on account of the contract	$425 00
Cost of survey, laying out works and printing	594 31
Total	$1,019 31

The balance of the appropriation will be required for revote for the comple
these works.

Otonabee River Works.

An appropriation of $2,500 was made in 1873, for the construction of cribs for booms at Young's lock, and this has been expended in building eight crib piers in the channel of the river above the lock, in the deepening of a channel between a small island above the lock and the shore, to facilitate the running of logs and timber without interfering with navigation, and in the excavation of a point at the entrance to the cut above the lock; booms are ready to be connected with these piers on the opening of navigation, and it is hoped that the works will materially relieve the difficulties of navigation above the lock during the period when the drives of logs are passing.

The expenditure has been as follows:—

Payments on contracts for piers, booms, excavations, &c....	$2,425 00
Cost of inspection.....	92 50
Total	$2,517 50

Similar works will be required below the lock, where the navigation is very much obstructed by the running of logs when the drives are passing, and a sum of $2,500 will be required for that service in 1874.

Nottawasaga River Improvement.

A revote of the unexpended balance of $1,041.37 was made for this work in 1873, and this was expended in the removal of some new jams of fallen trees, branches and other debris which had formed in bends of the river since the work of the preceding year had closed After these were removed, the men on the works were employed cutting down, on each side of the river any timber which, from its overhanging position, was likely to fall into the channel and create obstructions. In connection with this subject, I feel sure that many of the jams and other obstructions that have formed in sluggish and tortuous streams like the Nottawasaga and its tributaries, have in the first instance been caused by the carelessness of the lumbermen and residents along the creeks, who often cut timber so that the tops and branches fall into the water, and create the foundations of what, in course of time, often become formidable jams, and I think the municipal authorities of townships which are intersected by such water courses should pass by-laws to enable them to stringently enforce the powers conferred upon them by sub-section 14 of section 379 of the Municipal Act, "for preventing persons obstructing watercourses."

The sum of $956.46 was expended on this work in 1873.

Kaministiquia River Works.

The appropriation of $11,791.10 was granted in 1872 for the purpose of making a channel through the bar outside the entrance to the river at Fort William, on Lake Superior. It was then proposed to excavate a channel 100 feet wide, with a depth of 10 feet of water throughout. The commencement of this cut would have been about 1,000 feet outwards from the mouth of the river, and from that to its outer end 2,000 feet more. The depth of water on this space of 2,000 feet varied from 10 feet at the ends to 5½ feet in and along the centre, and the bed of the lake from the inner end of the proposed cut to the entrance to the river was covered with an average depth of 11 feet of water, the river inside deepening to 15 feet. The excavation of this channel would require the removal of 20,000 cubic yards of material. Nothing was done at this work in 1872, and before commencing the excavations in 1873, an examination of the bar was made, which showed that a deeper channel would be required for the entrance of steamboats than what had formerly been proposed. This has chiefly arisen from the necessity of providing for the passage of a larger class of boats, as a consequence of the growing importance of the trade in connection with the mining and other interests in that part of the Lake Superior region; and, on the strong representations of captains of the steamboats navigating that route, it became evident that it would be necessary to increase the depth of the channel to 13 feet below the surface of the water, at the time the work was in progress. It will

be seen from the description I have given of the depths of water from the mouth of the river to the outside of the bar, that the increased depth asked for would necessitate the commencement of the dredging at the river itself, and thus extend the excavation of the cut to a length of 3,000 feet, and this, with the increase of depth through, would cause the quantity of excavation to be doubled. The dredge being on the ground and employed on the work, it was highly desirable in point of economy, as well as for the convenience and safety of navigation the past season, that the extra dredging should be carried out as a part of the original scheme, so as to save the cost of bringing the dredge to the place again from a long distance, and also of going over the same ground with the work a second time in another year. On these considerations it was decided to have the additional work done while the dredge could be retained on the ground, and by the close of navigation a fine channel was completed through the bar, having a length of over 3,000 feet, a width of 100 feet, and a depth of 13 feet below the then surface of the water. Before the completion of the channel it was seen that to make the entrance available at night, a guide pier and range lights would be necessary ; and, on the representations of the captains of the steamboats, it was decided to have the necessary works constructed. These were completed, and the "Manitoba," "Chicora" and other steamboats made several passages through the cut during the night, as well as the day, with perfect ease. The natural advantages of the Kaministiquia river at Fort William for the purposes of a harbour are very great. It is situated in the centre of the valuable silver mining district ; and is, I believe, now connected by road with Prince Arthur's Landing and the Dawson Road to the Province of Manitoba.

The cost of the works completed in 1873 is as follows:—

Dredging the channel through the bar, 40,000 c. yards	$19,200 00
do for foundation of guide pier	253 45
Cost of timber, lumber, and tug service for guide pier	1,546 51
Pay sheets, and accounts of men employed on range pier	510 80
Cost of iron work, range lamps, &c	267 85
Cost of surveys and superintendance	869 31
Total	22,647 92

Of this expenditure $11,247.96 has been covered by payments made before the close of the public accounts in 1873, and therefore a revote of $543.94 and a new vote of $10,856.02 will be required to cover the whole cost of these works.

Trent River Bridge.

An appropriation of $2,000 was granted in 1873, to assist in defraying the cost of the construction of a bridge over the Trent Narrows in the Township of Seymour. The adjoining counties and townships had previously passed by-laws to provide for certain proportions of the cost, and the sum voted by the House of Assembly last year was to provide the balance required for the final payment on the work. The Warden of the County of Peterborough has recently informed me that the bridge is in construction, and the sum voted in 1873 will be required for revote this year to be paid over on the receipt of a report of the satisfactory completion of the structure.

Maintenance of Locks and Dams.

The sum of $4,000 was appropriated for this service in 1873, and the expenditure has been as follows:

Lock at Port Carling, lifting gates, removing rollers, adjusting valves, and balance beams	$143 85
Lock at Lindsay, clearing out chamber recesses, pit at lift wall and above lift, ironwork, tools and painting gates	438 35
Bridges at Lindsay, adjustment and repairs to Lindsay and Wellington bridges, and replanking, new centre beam, and iron work for turning gear for Scugog River swing bridge	286 36

Young's Point lock, putting guard timbers on lock gates, adjusting boxes and irons on balance beams additional platform for swinging gates and adjusting swing bridge.....	$214 06
Young's Point dam—rebuilding slide and slide piers, and a part of apron for foundations. Cost of materials used $1,383.76. Cost of labour $1,035.41	2,419 17
Balsam River Works—repairs to dam and slide caused by passage of logs injuring flooring, &c.....	167 34
Cost of inspection of these works..	93 23
Total	$3,762 36

The dam at Young's Point, on the maintenance of which the navigation through and above the lock is dependent, was not constructed by the Government, but is an old structure, and the slide, slide piers, stop logs, apron and foundations had become decayed, undermined, and partly carried away. These works would not have withstood another spring freshet, so that it became necessary to do extensive repairs to the dam. The works are in a forward state, and will be finished within a month, and the dam will then continue in a satisfactory condition for some time.

An appropriation for the completion of this, and for other works of maintainance will be necessary for 1874.

Lock-masters and Bridge-tenders' Salaries.

The sum of $1,200 was appropriated for this service in 1873, and the expenditure has been as follows:—

Lindsay.—Twelve months' salary for lockmaster...	$300 00
" Assistance in swinging two bridges, &c.....	47 75
" 7 months' salary for bridge-tender at Scugog River.....	175 00
Young's Point.—12 months' salary for lockmaster.	244 00
Port Carling.—12 months' salary for lockmaster	240 00
Total.	$1006 75

As the lock at Balsam river is ready for the passage of boats, a lockmaster at that place will probably be required next year, in addition to those at the places mentioned.

DRAINAGE WORKS.

Drainage works are now finished in the Townships of Russell, Mosa, Dunwich, Ekfrid and part of Caradoc, Grey and Brooke. The whole cost of these works will be reimbursed to the Government by a rent-charge derived from an assessment of the lands unwatered, as provided by the Act 36 Vic., Cap. 38, and known as the "Ontario Drainage Act of 1873."

The following statement shows the expenditure on these works, the length of drains opened, and the approximate areas unwatered, in each township.

Townships	Length of Drains	proximate Areas Unwatered	Excavations	Culverts	Road Formation	Engineering	Total Expenditure
	Miles	Acres	cts.	$ cts.	$ cts.	$ cts.	$ cts.
Russell..... . ..	8	8,800	11.228 05	.....	.....	315 72	11,543 77
Mosa	15⅝	8,300	11 595 30	553 86	....	565 59	12,714 75
Dunwich	9	7,500	9.691 25	.....	.....	414 61	10,105 86
Ekfrid & Caradoc	17½	8,100	12.504 05	.....	.....	512 96	13,017 01
Grey.....	6⅝	4,300	7,016 24	153 00	479 88	526 55	8,175 47
Brooke.....	26½	28,000	32.591 47	190 00	980 01	986 25	34,747 73
Total.....	83¼	65,000	84.626 36	896 86	1,459 69	3,321 68	90,304 59

The position of the unfinished works is as follows :—

Raleigh and East Tilbury Drains.

The contractor for the excavation of the drains in East Tilbury and Raleigh having failed to do any work during the favourable portion of the season of 1873, the works were resumed by the Government with the intention of pushing their completion, but the delays caused by re-measurements, and the unfavourable weather in the fall, have prevented much being done. However, fresh contracts have been let for the completion of several portions of the unfinished works in both townships, and it is expected to have the whole of the drains finished before the close of the present year.

In Raleigh, the expenditure in 1873 has been as follows :—

Payments to John Elliott, on contract..	$ 915 00
" to other contractors.....	1,315 27
Cost of superintendence.....	173 00
Total.....	$2,403 27

In East Tilbury the following payments have been made during the past year :—

Payments to John Elliott, on contract.....	$2,019 00
" to other contractors.....	393 00
Cost of superintendence.....	171 50
Total.....	$2,583 50

Moore Drainage Works.

The drainage works in this township were let in two contracts in 1871, and one of these, for the excavation of No. 5 drain, by Mr. Wm. Tennyson, has been completed in a satisfactory manner : its length is 629 rods.

The other contract for Nos. 4, 10, 11 and 13 drains, which was let to Mr. William Barnum, is still incomplete ; and although the work so far is being well executed, I regret to say that the rate of progress made on the works is not as satisfactory as it should be.

The position of the works on these drains at the close of 1873 is as follows :—

Drain No. 11—Nearly completed ; 490 rods in length, containing 14,500 cubic yards of excavations.

Drain No. 13—Nearly finished ; 1,097 rods in length, containing 17,200 cubic yards of excavations.

Drain No. 10—The entire length of which will be 1,067 rods, has a length of 510 rods excavated, from which 11,000 cubic yards of material have been removed.

Drain No. 4—The work on which was commenced in November last, has a length of 264 rods partly excavated, from which 2,600 cubic yards of earth have been removed. The entire length of this drain will be 897 rods.

The following payments have been made on these works in 1873 :—

Payments to Wm. Tennyson on completion of No. 5 drain.....	$ 663 00
" to Wm. Barnum, for work on Nos. 4, 10, 11 and 13 drains	3,233 00
Cost of engineering and inspection.....	226 50
Total.....	$4,122 50

Township of Sombra, Co. of Lambton.

Surveys were made in 1871, extending over about 29,000 acres of wet lands in this township, and 44 miles of proposed drains were then located ; but no other steps were taken with regard to commencing the works until the past year, when, on the application of the inhabitants, by a resolution of the municipal council of the township, it was deci-

ded to proceed with the excavation of all the leading discharge drains, in the system of drainage as laid down in the survey. These drains comprised Nos. 1, 2, 6, 7, 8, 9 and 10, having a total length of 25½ miles, and requiring the excavation of 159,000 cubic yards of earth in their construction.

No. 1 drain, 5½ miles in length, containing 34,000 cubic yards of excavations, was let in July, 1873, to Mr. Guldbrand Viker who, at the close of the year, had excavated about 13,000 cubic yards of material from the lower part of the drain.

Nos. 2, 6, 7, 8, 9 and 10 drains, 20 miles in length containing 125,000 cubic yards of excavations, were let at the same period to Mr. George Blain, and at the close of the year he had excavated about 8,000 cubic yards of earth from the lower parts of Nos. 2, 6 and 9 drains.

The contract for No. 2 drain which is along an allowance for road, in addition to the excavation of the drain, provides for the chopping and removal of the timber on the road allowance, for the grubbing of 15 feet in width in the centre, and for the formation thereon of the earth removed from the drain.

The expenditure on these works in 1873 has been as follows :—

Payments to Guldbrand Viker on contract	$2380 00
" George Blain on contract	1445 00
Cost of inspection and superintendance	303 21
Total	$4128 21

The contracts for these drains provide for their completion by December, 1874, and if the weather, during the present year, should be favourable for such work I have hopes of their being finished by that time.

Township of West Nissouri, County of Middlesex.

On the application of the inhabitants, by a resolution of the municipal council of this township, it was decided to proceed with the work on this drain. A survey and location of which had been completed in 1872.

The contract for the excavations was let in July, 1873, to Mr. John Woods, of London. The length of the drain will be 6¾ miles ; the contract includes the removal of 47,000 cubic yards of earth, and its construction will unwater an area of about 6,000 acres. About 4,300 cubic yards of earthwork have been removed from this drain to the close of the year, and the following payments have been made in connection with the work.

Payment to John Woods on contract	$621 00
Cost of superintendance	10 50
Total	$631 50

The contract for this work provides for its completion in 1874.

Applications for other Drainage Works.

During the past year applications have been made to the Government from the municipal councils, or resident landholders, asking for the construction of drainage works in the following townships :

East Williams, where the municipal council have constructed half the length of a main drain, and desire the Government to construct the other half ;

Portland and Camden, where the resident landholders desire drainage works for the purpose of lowering the waters of a part of the Napanee River above Petworth ;

South Plantagenet, where the municipal council desire the construction of works for the lowering the waters of a part of the Petite Nation River ;

Delaware, where the municipal council desire the Government to undertake the con-

struction of about 8 miles of drains, which have already been located by a survey made under instructions from the Department;

Clarence, in the County of Russel. A number of the resident landowners are desirous of having a swamp in that township drained, by the construction of a ditch leading through the wet tract and discharging into the Nation River above the Pitch-off: this can only be done with success after the completion of the works at the Pitch-off, asked for by the Council of South Plantagenet. A survey and location of the Clarence drain should be made this winter.

Expenditure on Works in Progress.

The following statement shows the expenditure, from the commencement of the works to the close of 1873, on the construction of drains which it is expected will be finished in 1874.

Townships.	Length of Drains.	Approximate areas to be unwatered.	Excavations.	Culverts.	Road formation.	Engineering.	Total Payments.
	Mes.	Acres.	$ c.	$ c.	$ c.	$ c.	$ c.
Raleigh	17½	19,000	26,251 27	2,521 44	312 75	494 50	29,579 96
East Tilbury	25½	23,000	25,698 00	134 56	.....	508 00	26,340 56
Moore	13¾	13,000	8,630 50	.....	.....	411 80	9,042 30
Sombra	25½	29,000	3,825 00	.....	.....	303 21	4,128 21
West Nissouri	6¾	6,000	621 00	.....	.....	10 50	631 50
Total	88¼	90,000	65,025 77	2,656 00	312 75	1,728 01	69,722 53

A sum of about $65,000 will be required for the completion of these works.

In Sombra, the construction of about 18½ miles of cross drains along the allowances for roads, between the eleventh and twelfth, the ninth and tenth, and the seventh and eighth concessions, will be required in addition to those under contract, in order to complete the system of drainage for unwatering the areas forming the 29,000 acres of wet lands in that township.

Works in the Township of Ryerson.

When making arrangements for the continuation of these works in 1873, it was decided to discontinue the practice of furnishing provisions to the contractors in part payment of work done, so soon as the stock of provisions on hand, and purchased the two preceding years, should be exhausted, and in consequence of the slow progress of the contractor for the first set of 25 houses and clearings, it was arranged to let the chopping of a number of clearings, of four acres each on separate lots, to persons resident in the township who were desirous of obtaining such employment. In a few cases contracts for the erection of houses were let to some of the persons engaged on the clearings, but from the experience of the preceding years it was found most desirable to push the chopping and clearing of small areas on each of the available lots to which access could be had from the roads, which have been opened through the township, as now that the nucleus of a settlement has been formed, many of the people desirous of settling there prefer to erect their own houses, but all are necessarily anxious to get a crop in the first year.

The contractor for the first 25 houses and clearings having made such slow progress with his work, it became necessary to take some of the unfinished houses out of his hands, and get them completed for the occupation of the persons who had taken up the lots on which they stood. The following statement will shew the position of the works under this contract:—

Eighteen of the houses and clearings are occupied. Most of these had some details to complete to make them finished in accordance with specifications, but in several of the cases the occupants being anxious to get into possession, agreed to do the work required themselves, on being paid its value.

Six houses are built to rafters; these have clearings of 5 acres each, requiring some labour to complete them.

This makes a total of 120 acres cleared and 24 houses finished or in progress on this contract, leaving 1 house and clearing not yet commenced.

Three of the partially finished houses are at present in the occupation of Mr. Starratt, the contractor.

In addition to the 24 lots on which houses and clearings have been made by Mr. Starratt, the following improvements have been made and are in progress, the work being let in small contracts to 24 of the resident settlers of the township:—

One house finished and occupied;
One house about completed;
Four houses with the walls up;
Two houses for which the timber for the walls is cut;
Ten lots on which 41 acres in all have been cleared for crops;
Eleven lots having 44 acres in all chopped and partly logged;
Thirteen lots on which 46½ acres in all are chopped;
One lot on which 4 acres have been underbrushed.

The clearings made are mostly in areas of four acres on each lot. The work is let at $20 an acre for chopping, logging and clearing, and $115 for each house finished in accordance with the plans furnished for the first contract. The whole of the improvements made under the provisions of the "Act to encourage settlement in the Free Grant Territory," extend over sixty 100-acre lots, on twenty of which houses are finished and occupied, on thirteen more houses are in construction, several of which are nearly finished, and on the remaining twenty-seven lots clearings of four acres each will be ready for this year's crops.

The expenditure on these works in 1873 has been as follows:—

Payments to contractor on 24 houses and clearings	$751 00
" sundry contractors on pay sheets.....	2,555 88
Cost of superintendence and travelling charges	844 16
Total	$4151 04

This amount includes payments to contractors in provisions of $350.04, out of the stock in store purchased in 1872, and therefore the cost of the work done in 1873 is that sum in excess of the payments made by the Treasury Department. It will be seen by referring to the expenditure on these works in 1873 and preceding years, that in the latter year a larger proportion of the whole payments has been expended in the actual works than in the other years. The road works in the township were extended in 1873 by letting a contract for opening a road on the north side of the Maganetewan River, and completing the work on Wardle's contract for opening a road of 2¾ miles on the 11th and 12th concessions.

The contract for the work on the north side of the river was taken by Mr. Wardle in July, 1873, at the following rates, viz.:

Chopping, clearing and grubbing	at	$95 per mile.
Levelling 12 feet in width in centre	at	35 do.
Ditching, per lineal rod.....	at	3 do.
Crosswaying	at	2 do.
Culverts.....	at	$2 each.

At the close of the year three miles of road was chopped out north of the Maganetewan, 3 culverts put in, and 40 rods of ditching done.

Some repairs were also done on the main road leading into the settlement from the depot at Spence.

The expenditure in 1873 was as follows :—

Payments by paysheets for repairs on road	$154 00
Do. on contract for road south of Maganetewan	296 37
Do. on contract for road north of do.	544 00
Cost of superintendence and travelling charges	316 33
Total	$1,310 70

The balance for revote will be employed in completing the roadway north of the Maganetewan, where there is some very good land which was quite inaccessible before the opening of this piece of road.

When the last-mentioned road is finished, there will be 20 miles of roadway opened through the township, giving convenient access to all the best class of its lands.

The success of the settlement since the commencement of the works has been satisfactory, and has only been retarded by the slow progress made in building and clearing.

There are now 74 occupants of lots, many of whom have taken up 200 acres each. These are nearly all located along or near the main road opened through the township, which commences at the Government Depot lot, on the Nipissing road in Spence, and ends at Doe Lake in the south-eastern corner, from which point it is expected that a connecting road will be made to join one now in construction from the Nipissing road through the Townships of Monteith, McMurrich and Perry, to the road through the Township of Chaffey, which leads into the Muskoka road at Huntsville and thence to Bracebridge and the older parts of the settlement. Many applications have been made for locations in addition to those mentioned, and there will be no difficulty in settling the whole of the available lands of the township.

Surveys and Inspections.

Amongst the most important of those undertaken during the year was an examination of the head waters of the Gull and Burnt Rivers, which form the chief sources of supply to the navigable chain of lakes and rivers north of Peterboro' and Lindsay. The object being to ascertain the practicability and cost of constructing works for holding in reserve a large part of the surplus waters of the lakes forming the head waters of these rivers, which spread over the Townships of Sherborne, Havelock, Stanhope, Guilford, Harburn, Minden, Dysart, Dudley, Lutterworth, Snowdon, Bexley and Somerville, so that an increased supply might be obtained for raising the waters in the chain of lakes below Cameron's Lake in the latter part of each summer, when a large supply is always required for purposes of milling, lumbering and navigation.

The waters of the Gull and Burnt Rivers unite with that of the Scugog River in Sturgeon Lake, and passing thence through Pigeon, Buckhorn and Stony Lakes, unite with other streams in forming the Otonabee River, which, passing Lakefield and Peterboro', discharges into Rice Lake, and from thence by the River Trent into Lake Ontario, at Trenton in the Bay of Quinte.

The extreme length of water communication for timber and saw-logs from Havelock to Trenton is about 300 miles. In this distance there is navigation for vessels from Hastings to Peterboro' of 50 miles, from Lakefield to Stony Lake of 20 miles, from Bridgenorth to Fenelon Falls of 40 miles, and from thence to Coboconk of 15 miles. On all these waters, except the last, there are steamers and barges carrying on a large summer traffic.

The number of saw-logs annually coming down portions of the main stream is about 500,000, and there are at various points on the river, between Minden and Rice Lake, at least twenty mills of different descriptions worked by water power, besides a number of steam mills dependent on the water supply for obtaining their stock of logs.

During the latter months of each summer the scarcity of water, caused by the stoppage of the flow from the back lakes, evaporation, increased areas of cleared lands, and waste by lockages, mills and running of logs, impedes and sometimes practically stops steamboat navigation, and interferes with and often prevents the working of the mills, and enormously increases the cost of driving the timber and saw-logs.

The lumbering operations having outlet through the Gull and Burnt Rivers cover large areas of the Townships of Havelock, Eyre, Guilford, Harburn, Dysart, Dudley, Sherborne, Stanhope, Minden, Snowden, Glamorgan, Hindon, Anson, Lutterworth, Somerville and Caxton. The surface throughout these townships is hilly, and in many places rocky, and the numerous lakes have mostly high banks and narrow outlets with rock beds, and are therefore very favourably adapted by nature for being utilized as reservoirs for the storage of water for equalization of the supply of the lakes below Fenelon Falls, where it is so much required in the dry season for the operations I have already referred to. From examination I find that reserve dams have already been constructed at the outlets of several of the lakes connected with the head waters of these rivers, and the benefit derived from these was very markedly felt during the last and preceding fall seasons, in keeping up the supply of water in Sturgeon and the lower lakes, but repairs to these and a number of additional works are required to complete the system of reserve areas which can be made available for the equalization of the navigable waters of the back lakes.

The importance of the trade and its connections carried on through the navigable waters of the back lakes, and from thence to the front, cannot be more clearly demonstrated than by the fact of the following railways having termini on their shores, and receiving large quantities of their freights from those waters, viz: The Midland Railway which carries large quantities of sawn lumber and square timber from Lindsay, Lakefield and Peterboro' to Port Hope on Lake Ontario: The Port Whitby and Port Perry Railways, having its northern terminus on Lake Scugog at Port Perry, from whence it conveys square timber, sawn lumber, ties, stave bolts and cordwood to Whitby and the Grand Trunk Railway, brought to the railway from every part of the back lakes by the navigable route through the Scugog River and the locks at Lindsay: The Toronto and Nipissing Railway, having its present terminus at Coboconk on the Gull River: and the Cobourg, Peterboro' and Marmora Railway, having its terminus, not yet opened for traffic, on Chemung Lake near Bridgenorth. These railways and the various kinds of traffic enumerated are all more or less dependent upon and affected by the condition of the navigation of the waters through which their trade is derived, and this explains the importance which is attached to the scheme for the conservation of the surplus waters of the numerous lakes in the townships mentioned.

EXTENSION OF RAILWAYS IN 1873.

During the past year construction works were in progress over 1005½ miles in length of railways throughout the Province; and 554¾ miles of these lines were opened for traffic in the same period. Of these, 375 miles of roads have been constructed chiefly with a view to the conveyance of through traffic from the United States in transit to the Eastern or Western States, while the remainder of those opened, as well as those still in construction and not yet ready for traffic have been built expressly for the development of the country, and have in consequence been largely aided by grants, as bonuses from the municipalities through which the lines are opened, as well as from the Provincial Government.

The "through" lines referred to are the following:

Canada Southern Railway, Main Line,

229 miles in length; commencing at Amherstburg and extending through the Counties of Essex, Kent, Elgin, Oxford, Norfolk, Haldimand and Welland to Fort Erie. This railway has its head-quarters and workshops at St. Thomas, and that town, as well as the country through which it passes derives much benefit from its construction.

Canada Air Line Railway,

146 miles in length; built in connection with the Great Western Railway; commences at Glencoe, passes through St. Thomas, and from thence within a short distance of, and more or less parallel to the Canada Southern Railway, to the same terminus at Fort Erie. This line has been designed to assist in carrying the large through traffic of the Great

Western Railway ; but at the same time it confers local benefits on St. Thomas, Simcoe, Jarvis, Cayuga and other towns and villages through which it passes.

These two through lines are well constructed and equipped ; have very easy grades and curves, and are laid with steel rails throughout. From Glencoe to Windsor, the Air Line is supplemented by a double track laid last year on the Great Western. Both roads have the 4 feet 8½ inch gauge.

The local lines are as follows :—

Port Whitby and Port Perry Railway,

20 miles long; connects Lake Ontario with the waters of Scugog and the other back lakes north of Lindsay. The short length of this railway connecting with so large an extent of water navigation offers large facilities for cheap transport from the back townships, of timber, sawn lumber, stave bolts, railway ties, cordwood and every class of merchantable woods, and thus confers great benefits on the back townships accessible to this navigation, where the material is to be had in abundance, as well as to those in the front where timber of all kinds is now becoming very scarce.

This railway was opened for a short period in 1872, but in a very unfinished condition, and as a large sum has been expended in 1873 on its completion, I consider its opening as having taken place in that year. The gauge is 4 feet 8½ inches.

Midland Railway.

Extension from Beaverton on the east shore of Lake Simcoe to the Georgian Bay, at Midland City. 20½ miles of this was completed and opened for traffic in 1873 as far as Orillia which is now connected by that railway directly with Lindsay, Peterboro' and Port Hope. The thirty-four miles of this extension from Orillia to Midland has a large quantity of the grading done between Orillia and Wabashene, and it is expected that this part of the line can be opened for traffic in 1874. The Midland Railway will then be placed in connection with some of the large lumbering establishments on the Georgian Bay. The gauge of this railway is at present 5 feet 6 inches; but it is proposed by the Company to change it to 4 feet 8½ inches. The completion of the work will confer direct advantages on the settlements and wooded lands in the Townships of Medonte, Mara, Orillia, Matchadash and Tay ; and it will give another outlet to the settlements in the Parry Sound and Muskoka Districts, as well as to the lumbering establishments around the southerly end of the Georgian Bay.

Toronto, Grey and Bruce Railway—Owen Sound Branch.

This branch, 68 miles in length, was opened for traffic in 1873, and thus Owen Sound, so long isolated, has been connected with the railway system of the Province. A large section of the country traversed by this road, especially between Orangeville and Chatsworth, in consequence of its flat surface, was formerly very much isolated for want of good roads, and this had a very deteriorating effect on the progress of the settlements in the Townships of Amaranth, Proton, Melancthon, Glenelg, Artemesia, Osprey, Sullivan, Holland and Euphemia; but since the construction of the road and its opening a marked advance has taken place in the prosperity of the whole district and in the value of its lands. This railway is constructed on what is known as the "Narrow Gauge," of 3 feet 6 inches in width between the rails, and the iron laid down has a weight of 40 pounds to the lineal yard. An extension of the Mount Forest branch of the same railway has been opened to Harriston, a length of about 9 miles during the same year, and a large amount of grading is done between that place and Teeswater.

Northern Extension Railway—Muskoka Branch.

12½ miles in length of this line were opened in 1873 from Orillia to Washago, at the foot of Lake Couchiching, where it connects with the road forming the only outlet in winter

to the whole of the Parry Sound, Nipissing and Muskoka districts, and therefore its opening to that place before the close of navigation has been a great benefit to these districts. It is hoped that the further extension of the road to the water of Lake Muskoka will be finished before the close of the present year, and after that is accomplished a large quantity of sawn lumber and square timber may be annually expected to pass over the railway from thence to Toronto. The present gauge of the Northern Extension Railway is 5 feet 6 inches, the same as that of the Northern Railway.

Hamilton and Lake Erie Railway.

This road, 32½ miles in length from Hamilton to Jarvis, was opened throughout in 1873. It is valuable as a cross-road forming connecting links with the Canada Air Line at Jarvis; the Canada Southern Railway at Hagersville, and the Grand Trunk Railway at Caledonia, all of which lines it intersects and thus forms with them a short means of transit by rail from the Counties of Norfolk, Haldimand and Brant to Hamilton and Toronto.

The gauge of this road is 4 feet 8½ inches, the same as that of the roads with which it forms its connections.

Wellington, Grey and Bruce Railway.

A part of the main line 17½ miles in length, between Paisley and Southampton, was ballasted and opened for traffic in 1873, thus connecting the harbour of Southampton by rail with Hamilton and the rest of the Province.

The Southern branch of this Railway, 67 miles in length, between Palmerston (a station on the main line) and Kincardine, has also been completed within the past year, with the exception of some ballasting, but has not yet been opened for traffic. This line will give rail communication with the Villages of Listowel, Newry, Ainleyville, Wingham, Lucknow and Kincardine, important centres of trade in the Counties of Perth, Huron and Bruce.

The gauge of this road is also 4 feet 8½ inches, and it is worked on lease by the Great Western Railway Company.

Cobourg, Peterboro' and Marmora Railway and Mining Company.

This company have made an extension of their railway from Ashburham to Lake Chemung, about 9½ miles in length, they are now engaged in reconstructing the bridge across Rice Lake and propose to relay the rails on the track between Rice Lake and Peterboro.' When that is completed this railway will form another connecting line between the back lakes and Lake Ontario, and will give Peterborough the advantage of a competing road to the front. The 9½ miles north of Ashburnham is ballasted and completed, but not yet opened for traffic. The crib work for the Rice Lake bridge is well advanced, and the track between Rice Lake and Ashburnham has the bridges reconstructed. The gauge of this road is 5 feet 6 inches.

Kingston and Pembroke Railway.

This road is now only in construction. 30 miles north of Kingston have been graded, 10 miles more partially graded. Some of the iron rails are laid, and the company have iron on hand for laying a portion of the track. It is, therefore, to be hoped, that they will be in a position to open the first 30 miles of this railway before the close of 1874. The completion of this line extending northerly through the County of Frontenac, will open up a large back country, now only accessible by colonization roads, but which is said to be rich in mineral deposits, which only want means of access to make them valuable. The gauge of this road will be 4 feet 8½ inches.

Montreal and City of Ottawa Junction [Railway.

This road will have a length of about 69 miles within the Province of Ontario, and its whole length will be 81½ miles; following a direct route rom Ottawa city to the Grand

Trunk Railway at the river Rouge, in the neighbourhood of the Coteau Landing Station. The line will pass through a sparsely settled district, remote from existing thoroughfares, and will connect with inland rivers and streams leading to a still more unsettled country. Its construction and completion will therefore confer a great benefit in giving access to, and opening up the interior of the Counties of Glengarry and Russell, as well as in giving a short and direct route between Ottawa and Montreal. The gauge of the road will of course be 4 feet 8½ inches, the same as that now on the Grand Trunk Railway, with which it will connect at Coteau Landing.

Works have been in progress during the past year over a considerable extent of the line, and 19½ miles have been graded in this Province.

Grand Junction Railway.

This railway as projected will have a length of about 86½ miles, with a course through the counties of Hastings, Northumberland, Peterboro' and Victoria. It will commence at Belleville, and terminate at Lindsay, touching at Peterboro' and other places of importance, and will connect with the Midland Railway at Lindsay, as well as with the navigation of the back lakes, for the trade of which it will form another competing line. The gauge will I believe be 4 feet 8½ inches.

Works have been in progress on this railway during the two preceding years, and are extended over 26 continuous miles in the County of Hastings, as well as over detached lengths in Seymour, and Peterboro'.

Credit Valley Railway.

This line has location surveys completed to Cooksville, Streetsville, Meadowvale and Milton, and light grading has been done over a length of 29 miles of the road between Toronto and Milton. It is stated by the President of the company that the line is to connect with Alton, Belfountain, Fergus, Salem, Galt, Woodstock, and St. Thomas, and in order to make all these connections it will in some cases have branches leading into the main line which is given as 112½ miles in length from Toronto to St. Thomas. The gauge will be 4 feet 8½ inches.

Formation and Guages.

Having made inspections of all the "Local" lines which were opened for traffic in 1873, as well as some not yet opened, I can state that they are well constructed, and adapted for the traffic of the districts they have to serve; although, in general, they are of a lighter construction and equipment than the main trunk or "through" lines to which they will act as feeders. The weights of rails laid on these roads vary from 50 to 58 pounds to the lineal yard, excepting on the narrow gauge or 3 feet 6 inch roads where the iron weighs only 40 pounds to the lineal yard.

With regard to gauges, now that the main trunk lines in the Province have been altered to that of 4 feet 8½ inches, all the new lines will be constructed to that gauge, excepting extensions of already existing lines which have been built with different widths: such as the Northern Extension, the Midland, the Cobourg, Peterboro' and Marmora, and the 3 feet 6 inch lines, and some of these are already considering the propriety of raising the necessary capital for making the change.

This brief sketch of the progress of railway construction in Ontario in 1873 will, I trust, be sufficient to shew the great benefits which are accruing to all parts of the Province from the completion of such works, many of which have been promoted by the liberal aid given by the Government and the Municipalities.

I have the honour to remain,

Your obedient servant,

Thos. N. Molesworth, C.E.

Engineer Public Works.

STATEMENTS

OF

ACCOUNTANT AND LAW CLERK.

No. 1.—STATEMENT shewing the Expenditure on Public Works during the year 1873, and the Total Expenditure on Public Works in Ontario up to 31st December, 1873. (Capital Account.)

NAME OF WORK.	Total Expenditure on Public Works to 31st December, 1871.	Expenditure 1872.	Expenditure 1873.	Total to 31st December, 1873.
	$ cts.	$ cts.	$ cts.	$ cts.
Government House	105,337 77	1,500 00	4,017 57	110,855 34
Parliament and Departmental Buildings and Grounds	52,330 78	2,886 82	11,204 68	66,422 28
Asylum for the Insane, Toronto	173,014 71	3,338 52	17,679 95	194,033 18
Do London	304,448 78	21,357 67 / 11,898 98	48,092 67	392,352 14
Asylum for Adult Idiots, London	6,554 04		13,790 49	121,798 72
Deaf and Dumb Institute, Belleville	90,215 11	17,793 12	14,815 19	117,219 76
Blind Institute, Brantford	69,318 75	33,085 82	235,232 76	326,816 67
Central Prison, Toronto	10,925 96	80,657 95	2,423 70	15,920 98
Reformatory, Penetanguishene	12,080 74	1,416 54		1,207 74
Registry Office and Gaol, Bracebridge	1,207 74		1,735 28	4,383 48
Court House and Gaol, Sault Ste. Marie	2,469 52	178 68	584 92	51,646 34
Agricultural Farm, Mimico	47,350 00	3,711 42	78,878 64	78,878 64
Agricultural College and Farm, Guelph			3,412 08	55,319 54
School of Practical Science, Toronto	38,569 34	13,398 12	4,346 63	28,705 86
Normal and Model Schools, do	13,613 50	10,745 73	98 56	2,433 15
Registry Office and Lock-up House, Parry Sound	1,715 20	619 39	1,933 06	7,410 98
Do do Thunder Bay	1,994 85	3,483 07	2,268 79	2,268 79
Lock-up at Silver Islet, Lake Superior				981 10
Brock's Monument	981 10		31,113 13	31,113 13
Inebriate Asylum, Hamilton			1,231 40	1,231 40
Normal School, Ottawa				36,946 03
Lock on Rousseau River, Muskoka	34,542 54	2,403 49		30,892 72
Lock at Young's Point, Peterborough	30,035 07	857 65		23 959 02
Lock between Balsam and Cameron Lakes	15,715 20	5,319 50	2,924 32	1,019 31
Lock between Mary's and Fairy Lakes			1,019 31	9,995 75
Cut between Lakes Joseph and Rousseau	9,761 80	233 95		38,970 11
Scugog River Works	27,760 34	5,221 25	5,988 52	4,999 62
Pigeon do	1,527 40	1,623 25	1,848 97	1,855 26
Sydenham do	374 76	644 00	836 50	5,915 09
Nottawasaga River Works	1,708 82	3,249 81	956 46	11,456 06
Kaministaquia do	197 10	11 00	11,247 96	6,034 64
Muskoka do			6,034 64	2,517 25
Otonabee do			2,517 25	

Washago and Gravenhurst Road	25,188 69	1,396 61	1,392 91	27,978 21
Wharf at Washago	489 22			489 22
Portage du Fort Bridge			4,997 99	4,997 99
Clearings and Log-houses on Free Grant Lands—Settler's Homestead Fund	3,682 03	4,541 10	3,532 17	11,755 30
Roads in Ryerson	1,409 04	3,068 96	1,310 70	5,788 70
Brooke Drainage Works	15,218 95	7,685 75	11,843 03	34,747 73
Dunwich do	6,339 30	2,716 11	1,050 45	10,105 86
Ekfrid, Caradoc and Metcalfe Drainage Works	11,308 75	658 31	936 80	12,903 86
Grey Drainage Works	6,127 55	1,048 92	999 00	8,175 47
Moore do	194 80	4,725 00	4,122 50	9,042 30
Mosa do	9,005 41	2,444 06	1,265 28	12,714 75
Nissouri West Drainage Works			631 50	631 50
Raleigh do	25,191 15	1,985 54	2,403 27	29,579 96
Russell do	11,543 77			11,543 77
Sombra do			4,128 21	4,128 21
Tilbury East do	17,757 50	5,999 56	2,583 50	26,340 56
Surveys and Drainage of Swamp Lands—Province Account	25,489 17	3,864 94	1,444 88	30,798 99
Surveys, Inspections, Arbitrations and Awards	1,137 34	913 95	744 98	2,796 27
Totals	1,213,773 59	266,681 54	549,620 60	2,030,078 73

F. T. JONES,
Accountant.

DEPARTMENT OF PUBLIC WORKS,
TORONTO, 31st December, 1873.

No. 2.—Expenditure for Repairs, &c., by the Department of Public Works during 1873 (Part of Maintenance Accounts.)

Name of Work.	Expenditure for 1873.
	$ cts.
Government House	6,212 64
Executive Council's and Attorney-General's Offices	1,032 22
Treasury Department	1,334 10
Secretary and Registrar's Office	1,334 10
Department of Agriculture and Public Works	1,334 11
Crown Lands Department	2,430 72
Parliament Building (Centre)	12,350 58
Osgoode Hall, Toronto	5,450 02
Normal and Model Schools, Toronto, Repairs	2,360 34
Do do Fuel	1,400 00
Depository, Toronto, Fuel	475 00
Education Office, Toronto, Fuel	294 85
Do do Repairs	306 84
School of Practical Science	1,826 51
Maintenance of Locks and Dams	4,769 11
Total	42,911 14

F. T. JONES,
Accountant.

Department of Public Works,
Toronto, 31st December, 1873.

No. 3.—STATEMENT OF EXPENDITURE from 1st January, 1870, to 31st December, 1873, under the Ontario Drainage Act, 33 Vic., c. 2, and 34 Vic., c. 22, on Drainage Works; chargeable to Municipalities. Also Total Expenditure under said Act up to 31st December, 1873.

TOWNSHIP.	Total Expenditure from 1st January, 1870, to 31st December, 1872.	Expenditure 1873.	Total to 31st December, 1873.
	$ cts.	$ cts.	$ cts.
Brooke	22,904 70	11,843 03	34,747 73
Dunwich	9,055 41	1,050 45	10,105 86
Ekfrid, Caradoc and Metcalfe	11,967 06	936 80	12,903 86
Grey	7,176 47	999 00	8,175 47
Moore	4,919 80	4,122 50	9,042 30
Mosa	11,449 47	1,265 28	12,714 75
Nissouri, West		631 50	631 50
Raleigh	27,176 69	2,403 27	29,579 96
Russell	11,543 77		11,543 77
Sombra		4,128 21	4,128 21
Tilbury, East	23,757 06	2,583 50	26,340 56
Total, chargeable against Municipalities	129,950 43	29,963 54	159,913 97
Preliminary Surveys and Sundries, chargeable against Province	25,750 16	1,444 88	27,195 04
Total	155,700 59	31,408 42	187,109 01

F. T. JONES,
Accountant.

DEPARTMENT OF PUBLIC WORKS,
TORONTO, 31st December, 1873.

No. 4.—Contracts and Bonds entered into with Her Majesty in 1873.

Date.	Work.	Subject of Contract.	Contractors.	Sureties.	Amount.
1874.					$ cts.
January 2. ...	Central Prison	Steam engines and boiler for workshops	James Isaac Dickey, John Neill & Nathaniel Dickey..	John Jackson and George Price	9,990 00 and at rates for part of work.
Do 3....	do	Iron doors for cells and passages..	John Wilkie	.....	per lb. 12¼
Do 14....	do	Cupolas, flanges and tempering tanks	Neil Currie	.....	7,065 00
July 14	do	Sundry works	The Canada Car Company ...	.....	23,958 00
August 7.....	do	Crib, well and coffer dam for Water Works	Rich. Dinnis & Chas. Chard..	James Walsh and John Dill.....	2,250 00
October 4. ...	do	Stone coping and caps for walls and concrete flagging for wings.	John Lamb	..... coping... caps..... concrete	per foot 1 20 each 2 25 sq. foot 0 20
Do 14....	do	Fence	Rich. Dennis & Chas. Chard.	.....	1,400 00
April 4.....	Parliament Buildings ...	Filling in grounds	Michael Short	.....	1,440 00
July 5	do	Fencing grounds	Daniel McDonald and James McDonald.....	.....	per foot 1 43 for posts at angles 20 00
October 27 ...	do	Painting fence	Gilbert Pearcy	..... [4 coats and sanding	sq. yd. 00 53
June 16	London Lunatic Asylum.....	Brickwork and masonwork, one double cottage	James Johnston.....	.....	1,886 00
Do	do	Carpenter's, plasterer's, painter's, glazier's and plumber's work for same	J. C. Dodd	.....	2,300 00
August 1.....	do	One treble cottage	Messrs Wright & Durand....	.....	13,500 00 and 5 25 M additional for brickwork.
July 4	Government Buildings, Toronto..	Years' supply of coal and wood....	Patrick Burns	S. A. Oliver & Wm. H. Knowlton.....	about 19,500 00
Do 14	Lock between Mary's and Fairy Lakes.....	Whole work	John Carroll.....	Joseph Donnelly & James Campbell	16,900 00
Do 10	Blind Institute	Bursar's House	William Watt	Hugh Workman & Thos. Broughton...	2,532 00
Do 18	do	Reservoirs and other works	do	.....	1,485 25
Do 29	Drainage works in Sombra.....	Drain No. 1	Guldbrand Viker	Titus S. Detlor & George Gilpin.....	6,800 00
August 8.....	do	Drains Nos. 2, 6, 7, 8, 9 and 10....	George Blain	Isaac Blain and Hugh Miller	32,110 15
Do 7.....	Deaf and Dumb Institute	Addition to dining hall...	John Forin	Hon. Robt. Read & Sandford Baker ..	3,000 00
Do 12... ..	Toronto Lunatic Asylum	Barn, stable, and cowhouse.....	Robert Kennedy	Thomas Downey and James Spence ..	5,622 00
September 22	Do	Addition to laundry	John Damp	John Davis and Joseph McCausland..	9,139 00
August 12....	Drainage Works in W. Nissouri.	Whole work	John Woods.....	Robert Woods and Charles Stoddart...	7,990 00
Do 1.....	Government House	Painting and graining outside.....	William Elliott	.....	400 00
October 1.....	do	Greenhouse	James Hathaway	.....	1,045 00

Do	14.....	do	Painting and glazing greenhouse..	William Milligan.....	....		525 00
Do	15.....	Inebriate Asylum	Whole work.....	Donald Nicholson	George Sharp and James Mathews..		69,225 00 besides smith's work at 12c. ℔ lb.
Do	8.....	Agricultural College, Guelph.....	Sundry alterations	James Barclay.....			2,533 00
Do	24.....	do	Plumbing and steam-heating.....	D. S. Keith & J. B. Fitzsimons...	....		3,400 00

F. T. JONES.
Law Clerk.

DEPARTMENT OF PUBLIC WORKS,
TORONTO, 31st December, 1873.

No. 5.—Property Purchased and Leased by the Department in 1873.

Date of Instrument.	Instrument.	By whom Sold or Leased.	To whom Sold or Leased.	Description of Property.	For what purpose used.	Area.	Price.
1873.						a. r. p.	$ cts.
April 4... ..	Grant & Surrender.....	Daniel W. Hopkins & Wife.	Her Majesty.. .	Part of Lot 17 in the 4th Con. of the Township of Barton, in the County of Wentworth	Inebriate Asylum	35. 0. 32.	6,936 34
" 8.	do	Emily E. E. Gourlay..... ...	do	Part of said Lot 17	do	1. 0. 0.	600 00
July 5.....	do	Isaac Buchanan & Wife....	do	Part of said Lot 17, and south part of Lot 16, in the 4th Con. of the said Township of Barton	do	56. 0. 34.	14,863 66
August 1.....	Lease for ten years..... ..	Andrew H. Browning..	do	Part of Lot 2 in the 2nd Con. of the Township of Macaulay, in the District of Muskoka	Emigration Depot, Bracebridge.....	0. 0. 32.	1 00 per year.
Sep. 30	Grant & Surrender.....	Frederick W. Stone & Wife.	do	Lots 6, 7, 9, and part of 8, in the 3rd Con.; Lots 6, 7, and parts of 8 and 9 in the 2nd Con.; and parts of Lots 6, 7 and 8 in the 1st Con., all in Division G in the Township of Guelph, and County of Wellington; and part of Lot 1 in the 7th Con. of the Township of Puslinch and said County	Agricultural College.	550. 0. 0.	(a) 75,000 00

(a) Part of this sum, viz. $500, is retained by the Government until certain conditions are performed.

F. T. JONES,
Law Clerk.

Department of Public Works,
Toronto, 31st December, 1873.

No. 6.—Property belonging to Public Works sold by Her Majesty in 1873.

Date of Deed	Purchaser.	Description.	Area.	For what purpose formerly used.	Amount paid down.	Amount secured by Mortgage.	Total purchase money.
1873.			a. r. p.		$ cts.	$ cts.	$ cts.
July 16.	John Tooze	Part of the lands belonging to the Blind Institute	0. 0. 11½	Blind Institute	(a) 20 00		20 00
October 3.	John W. Drummond	Village Lot 1 in Block C	1. 0. 0.	Agricultural Col., Mimico	140 00		140 00
Do	Samuel J. Watson	Village Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11, in Block A, and Town or Park Lots lettered A and B	16. 0. 0.	do do	155 25	1,397 25	1,552 50
Do 17.	John Canavan	Town or Park Lot 34	5. 0. 0.	do do	100 00	300 00	400 00
Do	Neil McEachren	Village Lot 2 in Block C	1. 0. 0.	do do	30 00	90 00	120 00
Do	Patrick Joseph Woods	Town or Park Lots 46, 47, 57, 58 and 59	25. 0. 0.	do do	419 00	1,256 00	1,675 00
Do	Archibald Stephenson	Town or Park Lots lettered C and F	5. 0. 0.	do do	81 25	243 75	325 00
Do	James Davey	Town or Park Lots lettered D and E	5. 0. 0.	do do	78 10	234 40	312 50
Do	Joseph Lacom	Park Lots 39 and 40	10. 0. 0.	do do	105 00	945 00	1,050 00
Do	William R. Crux	Village Lots 57, 58, 59, 60, 61 and 62, all in Block C	6. 0. 0.	do do	82 50	247 50	330 00
Do 25.	Columbus H. Greene	Village Lots 7, 8, 9, 10, 11, 12, 13, 19, 20, 21, 22, 23, 24, 25 and 26 in Block C; also Town or Park Lots 35, 36, 37, 38, 41, 42, 43, 44 and 45	59. 0. 13	do do	1,456 75	4,370 25	5,827 00
Do	John Strathy	Village Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 in Block B; and Village Lots 3, 4, 5, 6, 14, 15, 16, 17, 18, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55 and 56, in Block C; also Town or Park Lots 6 and 20, and Letter G	84. 3. 23.	do do	565 50	5,000 00	5,565 50
		Total	218. 0. 7½		3,233 35	14,081 15	17,317 50

(a) This amount was not paid by Mr. Tooze in cash, but was deducted from an account due to him by the Department for work done by him.

N.B.—The lots of the land at Mimico are numbered and lettered according to a plan of the sub-division of Lots 6, 7, and 8 in the 1st and 2nd Meridional Concessions of the Township of Etobicoke, made by Mr. T. N. Molesworth, Engineer of the Department, and registered in the Registry Office of the County of York on the 29th September, 1873.

F. T. JONES,
Law Clerk.

Department of Public Works,
Toronto, 31st December, 1873.

RETURN

To an Address for Statement shewing Instructions given to Emigration Agents employed by the Ontario Government, amount of money paid by way of Bonus to Emigrants before leaving for Ontario, and distinction made in favour of particular classes in granting assistance.

By command,

C. F. Fraser,
Secretary.

Provincial Secretary's Office,
Toronto, 20th February, 1874.

Return shewing instructions given to Immigration Agents employed by the Ontario Government, amount of money paid by way of bonus to Emigrants before leaving for Ontario, and distinction made in favour of particular classes in granting assistance.

1—Instructions to Alexander Begg, which are identical with those to other agents.

2, 3, and 4—Special instructions to Alexander Begg respecting bonus advanced to Major Donaldson.

5—Instructions to William Edwards on leaving for England.

6—Cost of W. Edwards's mission to England.

7—Statement of expenses of London office.

8—Statement of money paid by way of bonus to emigrants before leaving for Ontario, since January, 1873.

9—Advertisement shewing distinction made in favour of particular classes in granting assistance.

10—Blank instructions to Immigration Agents of 1874.

David Spence,
Secretary.

Toronto, 20th February, 1874.

Department of Agriculture and Public Works, Ontario,
Toronto, December 2nd, 1872.

Sir,—I have the honour to inform you that you have been appointed Commissioner for Emigration for this Province, for Scotland, for the period of six months from this date, at a salary of $150 per month, besides necessary travelling expenses, for which you will receive an additional allowance, not exceeding $4 per day, besides also $100 for each trip across the Atlantic, from Toronto and back.

Your duties will be to promote emigration from Scotland to this Province, of a good class of emigrants, using to that end every proper means in your power, such as the delivery of lectures and addresses; the dissemination, through the press, of information and advertisements in regard to the resources and capabilities of this Province, and the demand for labour therein, and such other means as may suggest themselves to you; and in carrying out these general instructions you will endeavour that, of the total number of emigrants sent out, at least 75 per cent. shall be agricultural and ordinary labourers, and not more than 25 per cent. mechanics or skilled labourers. You will also be good enough to exercise care in selection, so as to send only a good class of emigrants adapted to the wants of the Province, and in case of such only, and of no others, you are hereby empowered to grant certificates of approval in duplicate, printed forms of which will be supplied to you, upon production of which, after three months' residence here, the immigrant may obtain the $6 bonus refund.

In regard to advertising and the dissemination of information through the press, you are limited at present to an expenditure of $200, until further allowance. Should you deem it expedient that additional expenditure be made under this head, you will please notify the Department, but you will in no case exceed the sum named, without the special sanction of the Department obtained beforehand. An accountable warrant for the above-mentioned sum will be placed in your hands, for all expenditure under which, accounts, with vouchers, will have to be forwarded to this Department.

You are also empowered, in cases of necessity, to pay to any emigrant, whom you may think especially deserving, and who will sign an undertaking, (forms of which will be supplied to you), and who, in your opinion, would be likely to remain in this Province for at least three months, the bonus of $6 in advance, to assist in paying passage money, taking care to see that the same is so applied. And for this purpose a sum of $1,000 will be placed in your hands; for all expenditure under which also, accounts with receipts will have to be sent to this Department.

You will also be supplied with forms of agreement, to be signed by emigrants whose passage money has been paid by persons in this country, binding the emigrant to work for such persons for a specified time, at a stipulated rate of wages and to repay the amount of passage money.

Col. G. T. Denison, Junr., special Emigration Commissioner from Ontario to the British Isles, has been instructed to consult with you in regard to the best places for the delivery of lectures and addresses, and generally as to how best to carry out his mission as regards Scotland; you will please, therefore, afford him all the information in your power under these heads.

You are further instructed to leave for Scotland at your earliest convenience, and to establish your head quarters at the office of Mr. David Shaw, 43 York Street, Glasgow, where all communications to you will be addressed, and to report your arrival to this Department; and you will also be good enough to report fully, at least once a month, or oftener, should you think it necessary, the operations of both yourself and your assistant agent who is instructed to report to you.

I have the honour to be, Sir,
Your obedient servant,

(Signed) ARCHD. McKELLAR,
Commissioner.

Alexander Begg, Esq.,
Emigration Commissioner for Scotland,
Toronto, Ont.

DEPARTMENT OF IMMIGRATION, ONTARIO,
TORONTO, 9th September, 1873.

DEAR SIR,—The bearer, Charles Donaldson, Esq., is about starting for the British Isles, as the agent of the Hamilton District Immigration Aid Society, Number one, for the purpose of bringing out agricultural labourers. After he has selected his men, and has the

passage paid over to you, please advance the Ontario bonus of six dollars in reduction of passage, and draw on this Department for the amount so advanced.

Mr. Donaldson will leave you this letter as your authority for drawing for the amount.

I may add this has been submitted to the Honourable the Commissioner, and approved.

I have the honour to be,
Your obedient servant,

DAVID SPENCE,
Sec. Im. Dep. Ont.

Alex. Begg, Esq.,
Emigration Commissioner,
43 York Street, Glasgow.

DEPARTMENT OF IMMIGRATION, ONTARIO,
TORONTO, 30th, Oct. 1873.

DEAR SIR,—Referring to your letter respecting the payment of bonus in advance to Major Donaldson's emigrants, I presume from the conversation I had with you in August, and the tenor of my letter of the 9th of September, that you understand clearly that the bonus is to be advanced in reduction of passage money only. To prevent abuse, agents of Immigration Aid Societies are not supposed to get the handling of the money at all. An agent for instance, might get the emigrants to pay their own passage in full, and then draw the bonus and use it for his expenses. This would be a gross violation of the instructions of the Commissioner.

You will, therefore, see that it is applied as intended.

Your obedient servant,

(Signed) DAVID SPENCE,
Secretary.

Alexander Begg, Esq.,
43 York Street, Glasgow.

TORONTO, 24th December, 1873.

SIR,—I have the honour, under instructions from the Honourable the Commissioner of Public Works, to inform you, that Major Donaldson reported himself here a few days since, on his return from England, and to advise you that the transaction with you in advancing bonus for the eighty emigrants is far from being satisfactory. You have overlooked almost every point in my letter of instruction of 9th September last; and consequently you have given the emigrants certificates to enable them to draw the bonus on this side, and paid to Donaldson the same bonus in advance. If this should be carried out, the Government would have to pay $12 per adult, and not $6. Under the circumstances, you should not have paid any money to Donaldson, as it was only in the event of his paying the passage money over to you, that you were to advance the bonus. I fear therefore, that you will have to be held responsible for the $480 till Donaldson returns the amount.

I have the honour to be, Sir,
Your obedient servant,

DAVID SPENCE,
Secretary.

Alex. Begg, Esq.,
43, York Street, Glasgow.

DEPARTMENT OF PUBLIC WORKS, ONTARIO.
TORONTO, 2nd May, 1873.

The undersigned has the honour to report, that since the Rev. Horrocks Cocks was appointed Chief Emigration Commissioner for England and Wales, he has been subject to attacks and charges of misconduct in various quarters, that the undersigned has called on Mr. Cocks for explanations in regard to the matters involved in these attacks and charges, that these

explanations have not yet been received, that without having formed any opinion that the attacks and charges are to any extent well founded, yet the undersigned apprehends that their having been made, may have diminished Mr. Cocks' usefulness. In the meantime, that in view of that, the undersigned is of opinion that the interests of emigration to this Province would probably be advanced by commissioning Mr. Edwards, Secretary of the Department of Public Works, who is thoroughly familiar with all matters affecting emigration, to proceed to London, England, without delay, and then and there to take on himself the said office and position of Chief Emigration Commissioner for the Province of Ontario, in England and Wales, in the place and stead of the said Reverend Horrocks Cocks; and the undersigned recommends that Mr. Edwards be so commissioned accordingly, and that the Order in Council, dated 11th of December, 1872, be suspended so far as relates to the Rev. Horrocks Cocks until further orders. The undersigned further recommends, that Mr. Edwards be authorized also to settle all accounts and wind up all the affairs of the agency, and to make any arrangements for settling the affairs of any other Ontario Agency in the United Kingdom, and for closing the same should such action be deemed desirable; to settle all refund claims with the several Emigration Societies in England, upon the basis of the instructions which the undersigned recommends in another report of this date, and in all other respects to act for and on behalf of the Province of Ontario, in matters relating to emigration to this Province, and to ascertain and report fully upon all matters incidental thereto, which may be material in the interests of this Province.

(Signed) A. McKellar.
Commissioner.

Copy of an Order in Council, approved by His Excellency the Lieutenant-Governor, the third day of May, A.D. 1873.

The Committee of Council have had under consideration the report of the Hon. the Commissioner of Agriculture and Public Works, dated 2nd May, 1873, wherein he states that since the Rev. Horrocks Cocks was appointed Chief Emigration Commissioner for England and Wales, he has been subject to attacks and charges of misconduct in various quarters, that the Commissioner has called on Mr. Cocks for full explanation in regard to the matters involved in these attacks and charges, that full explanations have not yet been received, that the Commissioner without having formed an opinion that any of the charges are well founded, is apprehensive that their having been made, has or may have seriously diminished Mr. Cocks' usefulness. In the meantime, the Commissioner further states that in view of that result he is of opinion that the interests of Immigration to this Province would probably be advanced by commissioning William Edwards, Esq., Secretary Department Public Works, who is thoroughly familiar with all matters affecting emigration to proceed to England without delay, and then and there to take on himself the said office and position of Chief Emigration Commissioner for the Province of Ontario, in England and Wales, in Mr. Cocks' place and stead, and recommends that Mr. Edwards be so commissioned accordingly. The Commissioner further recommends that the order in Council, dated 11th December, 1872, be suspended so far as relates to Mr. Cocks, until further order; and that Mr. Edwards be authorized also to settle all accounts, and wind up all the affairs, as may seem expedient, of any other Ontario Emigration Agency in the United Kingdom, and for closing the same, should such action be deemed desirable, also to settle all refund claims with the several Emigration Societies in England, upon the basis of the instructions which the Commissioner recommends in another report of the same (2nd May, 1873 date herewith also submitted, and in all other respects to act for and on behalf of the Province of Ontario, in matters relating to Emigration to this Province; the Commissioner further recommends that Mr. Edwards be instructed to ascertain, and report fully from time to time, upon all things incidental to the said matters, which may be material to the interests of this Province.

The Committee advise that the said Report be acted upon.

Certified.

J. G. Scott,
Clerk Executive Council, Ontario.

14th May, 1873.

(L. S.) W. P. Howland.

Province of Ontario.

Victoria, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen Defender of the Faith, &c., &c., &c.

To William Edwards, Esquire, Secretary of the Department of Public Works in the Province of Ontario.

Greeting :—

Know you, that reposing special trust and confidence in your loyalty, integrity and ability,

We do by these Presents nominate, constitute and appoint you the said William Edwards to be our Chief Emigration Commissioner for the Province of Ontario in England and Wales, in the place and stead of the Reverend Horrocks Cocks; and it is our further will and pleasure to authorize and empower you, the said William Edwards, as such Commissioner, to settle all accounts of the several Emigration agencies of this Province in the United Kingdom of Great Britain and Ireland, and to close the same or any of them should such action be deemed desirable, to settle all refund claims with the several Emigration Societies in England, and in all other respects to act for and on behalf of the Province of Ontario in matters relating to Emigration, ascertaining and reporting fully upon all matters incidental thereto, which may be material to the interests of the Province of Ontario.

In testimony whereof, we have caused these our letters to be made patent, and the great seal of our said Province to be hereunto affixed: Witness, the Honourable Pearce Howland Companion of the Most Honourable Order of the Bath, Lieutenant-Governor of our Province of Ontario, at our Government House in our City of Toronto, in our said Province, this third day of May, in the year of our Lord one thousand eight hundred and seventy three, and in the thirty-sixth year of our reign.

By command,

(Signed) I. R. Eckart,
Assistant-Secretary.

(Signed) O. Mowat,
Attorney-General.

Recorded 3d May, 1873.

(Signed) John F. C. Ussher,
Deputy-Registrar.

Return of cost of mission of Wm. Edwards to take charge of the London office of Emigration for Ontario, in the place and stead of the Rev. Horrocks Cocks, as Commissioner, &c., &c, said commission occupying four months, namely, from the third day of May to the third day of September, 1873.

To out-fit requisite for the journey, and all fares and expenses from Toronto to Liverpool, and from Liverpool to Toronto in return	$528 60	
To personal expenses while in England, from May 18th to August 12th, 1873. £100	480 00	
To extra expenses incurred visiting Ontario Agencies in Glasgow, Belfast and Dublin	30 00	
Total expenses charged		$1038 60
To four months' salary deducted from Departmental Pay List, and salary for four months as Commissioner, charged to Immigration account..	600 00	
To Bank charges on moneys placed to credit of Wm. Edwards in Bank of Scotland	11 66	
		611 66
Total charges as per Public Accounts.....		$1650 26

(Signed) Wm. Edwards.

LONDON EMIGRATION AGENCY.

Re-Estimates for 1873—Page 25.

Appropriation for Rev. Horrocks Cocks' Salary and Expenses.

Salary 12 months, at $150 00	$1,800 00	
Travelling Expenses	1,460 00	
Total		$3,260 00
Actual payments and claims :		
Salary, H. Cocks', 6½ months	£ 203 2 6	
Travelling Expenses	38 11 0	
Unpaid and Unadjusted Claims	112 5 8	
	£353 19 2	
Or say	$1,464 64	
W. Edwards, 4 months, for all Expenses $1,038 60		
" " 4 months, Salary 600 00		
" " Bank charges 11 66		
	1,650 26	
	$3,114 90	
Less saved on Departmental Salaries, through W. Edwards' absence	100 00	
		$3,014 90
Saving on appropriation, should unadjusted claim be allowed in full		245 10

WM. EDWARDS.

Statement showing the amount of money paid by agents in Britain, by way of bonus to emigrants before leaving for Ontario, since January 1st, 1873.

C. J. Sheil, Dublin	$ 139 83	
Rev. H. Cocks, London	795 00	
John McMillan, Belfast	331 51	
Alexander Begg, Glasgow	2,706 96	
Sidney Robjohn, London	468 20	
Wm. Edwards	99 08	
		$4,540 58

Immigration Department,
Toronto, February 20th, 1874.

EMIGRATION TO THE PROVINCE OF ONTARIO, CANADA.

TENANT FARMERS.—Improved Farms, with dwellings and farm buildings, can be purchased at from £4 to £10 sterling per Acre, or for the amount required to carry on a leased farm in Great Britain.

CAPITALISTS.—Eight per cent. can easily be obtained for money, on first-class security.

MECHANICS, FARM LABOURERS, SERVANT GIRLS.—Employment can readily be obtained at good wages.

A FREE GRANT OF 200 ACRES

Of Land can be obtained, on condition of settlement, by every head of a family having children under 18 years of age; and any person over 18 years of age can obtain a Free Grant of 100 Acres on condition of settlement. These lands are protected from seizure for any debt incurred before the issue of the patent, and for 20 years after its issue, by a "HOMESTEAD EXEMPTION ACT."

Emigrants on their arrival at Quebec, should communicate with the Agent for the Province of Ontario, Mr. G. T. HAIGH, *who attends all vessels coming into port.*

ASSISTED PASSAGES.

The Government of Ontario will pay to regularly organized Emigration Societies, or to individuals, in Europe or in Ontario, the sum of six dollars (£1 4s. 8d. stg.) for every statute adult pecuniarily assisted and sent to this Province, or to any emigrant paying his or her own passage, or the passage of his or her family, on the following conditions:—

1st. Each emigrant so sent out, or paying his or her own passage out, must be approved of by some one of the Ontario Emigration Agents in Europe, or by the London Agent for the Dominion of Canada, and furnished by such Agent with a certificate entitling such emigrant, or the society or individual by whom such emigrant has been assisted, at the end of three months' residence in the Province, to the refund bonus of six dollars.

2nd. The Agent in Europe issuing the certificate, shall be satisfied that the emigrant is of good character, and that at least seventy-five per cent. of the adult males are of the agricultural or farm-labouring class, and the residue mechanics or skilled labourers. Of "professional men, book-keepers, clerks and shopmen," the Province has already enough and to spare. Dressmakers, milliners, and seamstresses are required; and female domestic servants are in great demand.

3rd. The emigrant, or the party in charge of assisted emigrants, on landing at Quebec, must present the endorsed certificate to the Emigration Agent for the Province of Ontario, at his office at Quebec, who will again endorse the certificate, and give the emigrant such advice and instructions as may be required.

4th. The emigrant having reached the Agency in the Province of Ontario nearest to his intended destination, will then be provided for by the local agent, and sent by free pass or otherwise to where employment is to be had,

5th. At any time after three months from the date of the endorsement of the certificate at Quebec, and upon proof being furnished and endorsed upon such certificate (which certificate must be presented in person, or sent by mail to this department), that the emigrant has during the interval been, and still is, a settler in the Province, the Government of Ontario will pay to the Society or to the individual entitled to the same, the sum of six dollars per statute adult.

6th. Forms of certificate, and full information, can be had by application to W. Dickson, 11 Adam-street, Adelphi, and S. Robjohn, 120 Salisbury-square, Fleet-street, London; to C. J. Sheil, Eden Quay, Dublin; to Alex. Begg, 43 York-street, Glasgow; or to any other Commissioner or Agent for the Province of Ontario.

ARCHIBALD McKELLAR,
Commissioner

Department of Agriculture and Public works,
Toronto, Province of Ontario, 1873.

DEPARTMENT OF IMMIGRATION, ONTARIO.

INSTRUCTIONS TO EMIGRATION AGENTS FOR 1874.

TORONTO,

SIR,—I have the honour to inform you, that you have been appointed Emigration Agent for this Province, for for the period of months, from the day of , at the salary mentioned in the subjoined Schedule.

Your expenses are not to exceed the amounts mentioned in the schedule, without special instructions from this Department.

Your duties will be to promote the Emigration to this Province of persons of such classes as are wanted in this Province, and suitable as settlers or labourers; and, to secure that end, you will use all proper means in your power: such as, the holding of occasional meetings in the rural districts; the dissemination, through the press and by circulars, of information in regard to the resources and capabilities of this Province, and the demands for labour therein; and such other means as may suggest themselves to you.

In discharging these duties, you will take care to say nothing to the disparagement of any of the other Provinces of the Dominion, and not to exaggerate the advantages of Ontario.

In issuing bonus certificates you are to be satisfied that the Emigrants receiving them are of the farm-labouring class, or female domestic servants of good character. To such Emigrants *only*, and in respect of the wives and children of the farm labourers, are you authorized to grant such bonus certificates.

You are also authorized, in the case of agricultural labourers, and of female domestic servants, to pay their bonus in advance, by way of reduction of passage money. This advance is to be confined strictly to such Emigrants as by the production of sufficient evidence, (which you are to preserve and report in each case to this Department,) may satisfy you that they are of good character and of the classes entitled to be so aided, and that they absolutely need such aid in advance to be able to emigrate, and that they *bona fide* intend to settle in the Province of Ontario; and they are to sign an undertaking to that effect, and sail to the Port of Quebec, where they must report themselves to the Agent of this Province. You will exercise great caution in these cases to ensure protection against fraud. To make the payment you will be be placed in funds from time to time by the Chief Agent in London, to whom all your accounts, with proper vouchers, are to be rendered monthly, and who will check them on behalf of this Department.

You will also receive, through the Chief Agent, and account to him for such other moneys as you may require, in conformity with these instructions.

You are further instructed to render all possible assistance to agents of Immigration Aid Societies who may be sent from this Province, and duly accredited by this Department, in selecting agricultural labourers and female domestic servants. And you are also authorized to pay, in reduction of passage money of such Emigrants as are selected by them, and as are approved by you, the said bonus of six dollars in advance in the same manner and under the like circumstances as are mentioned above.

In every case where a bonus is advanced in reduction of passage money, or a bonus certificate is granted, you are to be careful to see that an endorsement is made on the passage warrant or ticket of the Emigrant of such payment or granting of certificate, as the case may be, in order to prevent any Emigrant from obtaining more than one bonus.

You are also notified that all Agents of this Government are absolutely prohibited from accepting any commission, reward, remuneration or promise of such, directly or indirectly, from any Steamship Company or person, and from accepting any remuneration from any Emigrant on any pretence whatever.

The several Agents are also required, in forwarding Emigrants to the Port of Quebec, not in any way to discriminate in favour of or against any particular Steamship Company or other Shippers, but to deal with each impartially, having regard solely to the Immigration interests of this Province.

You will also be good enough to report your operations fully, at least once a month, to this Department, sending a duplicate report, at the same time to the Chief Agent in London.

The Chief Agent is required to exercise a general supervision and control over all the other Agents of this Province in Great Britain or elsewhere in Europe; and is directed (as may appear necessary in his judgment) to visit and inspect their respective offices.

DEPARTMENT OF EMIGRATION, ONTARIO.

TORONTO, , 187

The following measures have been adopted for the promotion of Emigration from the British Isles into this Province, for the following year:

LONDON AGENCY.

The expenses of this Agency are not to exceed the following:—

Office Rent, £120 sterling per annum, say	$600 00
Assistant and Clerk, £3 10s. sterling per week, say.....	910 00
Postage, Stationery, Cleaning Rooms, and all incidentals.....	400 00
Maps and Pamphlets for the London and all other British Agencies, Printing Circulars and Advertising, not to exceed	4500 00

has been appointed Assistant and Clerk, salary as above.

All money to be paid to, or distributed by, the other Agents of this Province, in the United Kingdom or Europe, to be sent to, and disbursed through the Chief Agent in London, who is to require proper vouchers and accounts to be kept by such Agents and returned to him, and by him to be forwarded to this Department, and that it shall be the duty of the said other Agents to prepare, from time to time, duplicate Reports of their operations, one of which Reports is to be sent by him to the Chief Agent, filed in his office, and the other is to be forwarded to this Department; and the said Chief Agent shall exercise a general supervision and control over said other Agents, and, as he may think necessary, visit and inspect their respective offices.

LIVERPOOL AGENCY.

has been appointed Agent at this Port for a period of twelve months from the , at a salary of $125 per month, and Assistant Agent, for a period of eight months, at a salary of $125 per month.

Expenses of this Agency not to exceed the following:—

Office Rent, $300.....	$300 00
Postage, Freight, Stationery, Cleaning Rooms, Petty Printing, and all other incidental expenses	600 00

GLASGOW AGENCY.

has been appointed Agent for this Port for a period of twelve months, from the , at a salary or $125 per month, and Assistant Agent, for eight months, at a salary of $125 per month. Other expenses not to be in excess of the amounts set forth for the Liverpool Agency.

DUBLIN AGENCY.

has been appointed Agent, at a salary of $125 per month, for a period of eight months.

All incidental expenses of this Agency are not to exceed $600.

CORK AGENCY.

of Toronto, has been appointed Agent, for a period of twelve months, at a salary of $125 per month. All incidental expenses not to exceed $900.

PLYMOUTH AGENCY.

Mr. Pease has been appointed Agent, at a salary of $500 for twelve months; and in case of Mr. Pease not accepting the appointment, that is authorized to appoint another person resident in England, to this Agency. The $500 in the case of this Agency to include all expenses.

That a sum of $100 be allowed to Agents of the Government for each trip across the Atlantic, and a further allowance not to exceed $4 per day for expenses when necessarily travelling in the interest of Emigration, for which vouchers and proof must be furnished to this Department.

Certain steamship companies having agreed to convey Agents of "Immigration Aid Societies" to Great Britain and back, for one fare, this "one fare" is authorised to be paid by this Department in the case of such societies as shall respectively satisfy His Excellency in Council that their Agent is [proposed] to be sent for the *bona fide* purpose of securing Emigrants, and bringing them to settle in this Province; and the said societies shall also obtain the approval by His Excellency in Council of their said respective Agents.

The Government bonus (at the rate of $6 per each individual over twelve years of age and $3 for every child from one year to twelve years) is restricted to Agricultural Labourers, and the families of any of such class, and to Female Domestic Servants; and the respective Agents are authorised to pay this bonus in advance, by way of reduction of passage money, in the case of such emigrants, as may by the production of sufficient evidence (to be reported to this Department in each case,) satisfy the Agent that they are of good character, and of the class entitled to be so aided, and that they absolutely need such aid in order to be able to emigrate; that they *bona fide* intend to settle in this Province, and the adult emigrants shall sign an undertaking to that effect; and they are to sail to the Port of Quebec, consigned to the Provincial Agent there. In cases where such eligible emigrants do not absolutely require the bonus in advance by way of reduction of passage money, the respective Agents are authorized to issue certificates, forms of which will be furnished the Agents, under which such emigrants shall be entitled to receive from this Government the said bonus after three months residence in this Province;—it being always understood that such certificates are only to be issued to Agricultural labourers, and in respect of the wives and children of any of such class, and to Female Domestic servants, and that the instructions and conditions prescribed on said certificates be observed by emigrants, without which they will not be entitled to such bonus.

The said Agents are absolutely prohibited from accepting any commission, reward, or remuneration, or promise of such, directly or indirectly, from any steamship company or person, and from accepting any remuneration from any emigrant on any pretence whatever

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